TOSHIBA

FILE NO. 810-200429

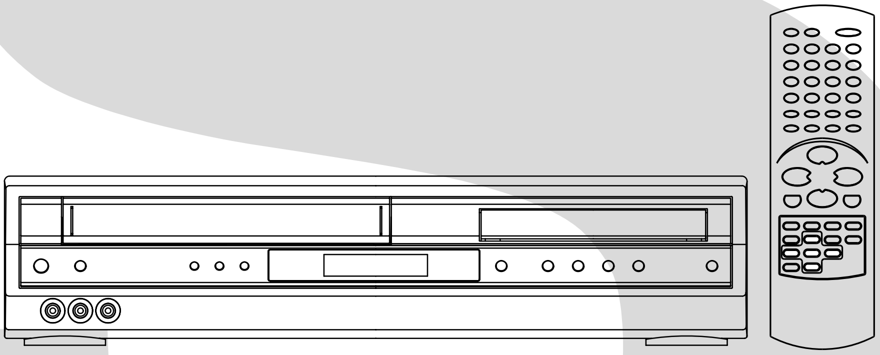
SERVICE MANUAL

DVD VIDEO · COMPACT DISC DIGITAL VIDEO · COMPACT DISC DIGITAL AUDIO · Designed for Windows Media™ · SPATIALIZER® VIRTUAL SURROUND · DOLBY DIGITAL · dts DIGITAL OUT

VHS Hi-Fi SQPB

DVD VIDEO PLAYER & VIDEO CASSETTE RECORDER

SD-V392SUA
SD-V392SCA



(SD-V392SUA)

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Printed in Thailand

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DVD VIDEO PLAYER & VIDEO CASSETTE RECORDER

SD-V392SUA

OWNER'S MANUAL

VHS Hi-Fi SQPB

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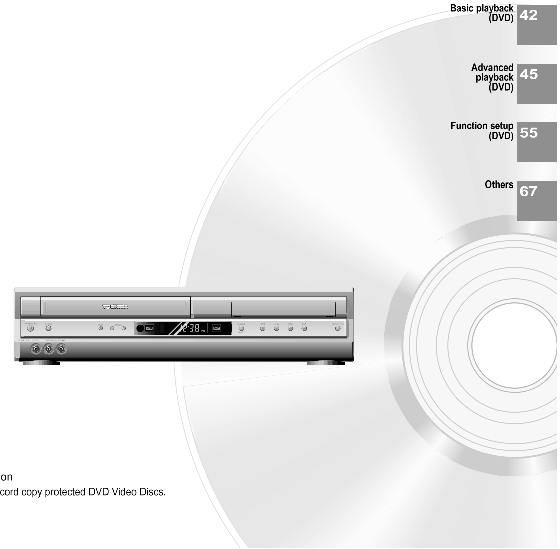


©2004 Toshiba Corporation

This device does not tape-record copy protected DVD Video Discs.

IMPORTANT SAFEGUARDS

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: **TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, do not expose this appliance to rain or moisture.**

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications not expressly approved by the partly responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

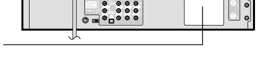
CAUTION: THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS USER'S GUIDE CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking
The rating sheet and the safety caution are on the rear of the unit.



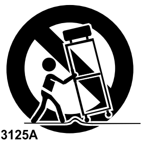
CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS**
All the safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS**
The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS**
All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS**
All operating and use instructions should be followed.
5. **CLEANING**
Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning the exterior cabinet only.
6. **ATTACHMENTS**
The manufacturer of this unit does not make any recommendations for attachments, as they may cause hazards.
7. **WATER AND MOISTURE**
Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
8. **ACCESSORIES**
Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit.

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3125A

9. **VENTILATION**
Slots and openings in the cabinet back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and/or the manufacturer's instructions have been adhered to.
10. **POWER SOURCE**
This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. **GROUNDING OR POLARIZATION**
This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Instead of the polarized alternating-current line plug, your unit may be equipped with a 3-wire grounding-type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
12. **POWER-CORD PROTECTION**
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

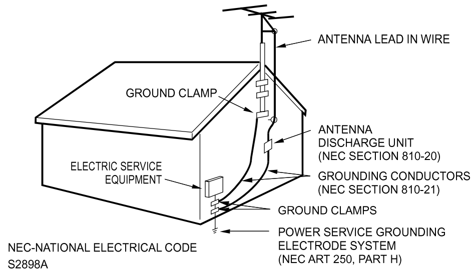
IMPORTANT SAFEGUARDS

13. **LIGHTNING**
To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.
14. **POWER LINES**
An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall onto or against such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.
15. **OVERLOADING**
Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.
16. **OBJECT AND LIQUID ENTRY**
Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.
17. **OUTDOOR ANTENNA GROUNDING**
If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
18. **SERVICING**
Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
For example:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the unit.
    c. If the unit has been exposed to rain or water.
    d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    e. If the unit has been dropped or the cabinet has been damaged.
    f . When the unit exhibits a distinct change in performance, this indicates a need for service.
19. **REPLACEMENT PARTS**
When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock or other hazards.
20. **SAFETY CHECK**
Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
21. **HEAT**
The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
22. **DISC TRAY**
Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.
23. **CONNECTING**
When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

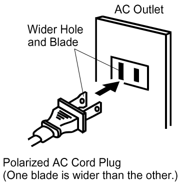
IMPORTANT SAFEGUARDS / Power source

24. **LASER BEAM**
Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.
25. **DISC**
Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
26. **NOTE TO CABLE TV SYSTEM INSTALLER**
This reminder is provided to call the Cable TV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER THE
NATIONAL ELECTRICAL CODE



Power source



TO USE AC POWER SOURCE
Use the AC polarized line cord provided for operation on AC. Insert the AC cord plug into a standard 120V 60Hz polarized AC outlet.

Notes:
- Never connect the AC line cord plug to other than the specified voltage (120V 60Hz). Use the attached power cord only.
- If the polarized AC cord does not fit into a non-polarized AC outlet, do not attempt to file or cut the blade. It is the user's responsibility to have an electrician replace the obsolete outlet.
- If you cause a static discharge when touching the unit and the unit fails to function, simply unplug the unit from the AC outlet and plug it back in. The unit should return to normal operation.

Precautions

Notes on handling

■ When shipping the DVD/VCR, the original shipping carton and packing materials come in handy. For maximum protection, repack the unit as it was originally packed at the factory.
■ Do not use volatile liquids, such as insect spray, near the DVD/VCR. Do not leave rubber or plastic products to contact the DVD/VCR for a prolonged period. They will leave marks on the finish.
■ The top and rear panels of the DVD/VCR may become warm after a long period of use. This is not a malfunction.
■ When the DVD/VCR is not in use, be sure to remove the disc and the video cassette turn off the power.
■ If you do not use the DVD/VCR for a long period, the unit may not function properly in the future. Turn on and use the DVD/VCR occasionally.

Notes on locating

■ Place the DVD/VCR on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand. The loaded disc or the video tape may become dis-aligned and damage the DVD/VCR.
■ When you place this DVD/VCR near a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the DVD/VCR away from the TV, radio, or VCR.

Notes on cleaning

Use a soft, dry cloth for cleaning.
- For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry.
Do not use any type of solvent, such as thinner and benzine, as they may damage the surface of the DVD/VCR.
- If you use a chemical saturated cloth to clean the unit, follow that product's instructions.

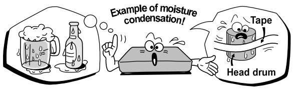
To obtain a clear picture

The DVD/VCR is a high technology, precision device. If the video head, the head drum, the optical pick-up lens or disc drive parts are dirty or worn down, the picture quality will deteriorate. To obtain a clear picture, we recommend regular inspection and maintenance (cleaning or parts replacement) every 1,000 hours of use depending on the operating environment. For details, contact your nearest dealer.

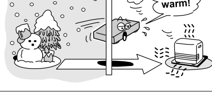
Notes on moisture condensation

Moisture condensation damages the DVD/VCR. Please read the following carefully.

Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the head drum or the optical pick-up lens inside this unit, one of the most crucial internal parts of the DVD/VCR.

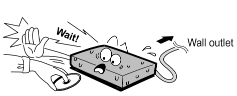


■ **Moisture condensation occurs during the following cases.**
- When you bring the DVD/VCR directly from a cold place to a warm place.
- When you use the DVD/VCR in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- In summer, when you use the DVD/VCR in a hot and humid place just after you move the unit from an air conditioned room.
- When you use the DVD/VCR in a humid place.


It's too warm!

■ **Do not use the DVD/VCR when moisture condensation may occur.**

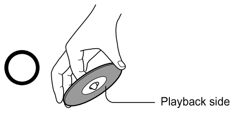
If you use the DVD/VCR in such a situation, it may damage discs and internal parts. Remove the disc or the video tape, connect the power cord of the DVD/VCR to the wall outlet, turn on the DVD/VCR, and leave it for two or three hours. After two or three hours, the DVD/VCR will have warmed up and evaporated any moisture. Keep the DVD/VCR connected to the wall outlet and moisture condensation will seldom occur.



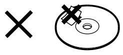
Notes on discs

On handling discs

- Do not touch the playback side of the disc.

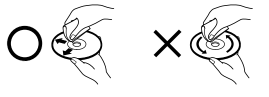


- Do not attach paper or tape to discs.



On cleaning discs

- Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



- If you cannot wipe off the dust with a soft cloth, wipe the disc lightly with a slightly moistened soft cloth and finish with a dry cloth.
- Do not use any type of solvent such as thinner, benzine, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

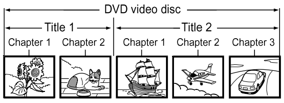
On storing discs

- Do not store discs in a place subject to direct sunlight or near heat sources.
- Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

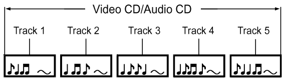
Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. VIDEO CDs and audio CDs are divided into tracks.

DVD video disc



Video CD/Audio CD



Each title, chapter or track is assigned a number, which is called "title number", "chapter number" or "track number" respectively.
There may be discs that do not have these numbers.

Notes on copyright

It is forbidden by law to copy, broadcast, show, broadcast on cable, play in public, and rent copyrighted material without permission.

This device does not tape-record copy protected DVD Video Discs.
The device is not to be used for copying copyrighted content without the express written permission of the copyright owner.
Obtaining such permission is the sole responsibility of the user.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Notes on discs (continued)

About this owner's manual

This owner's manual explains the basic instructions of this DVD/VCR. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the DVD/VCR may not respond to all operating commands. This is not a defect in the DVD/VCR. Refer to instruction notes of discs.

"✋" may appear on the TV screen during operation. A "✋" means that the operation is not permitted by the DVD/VCR or the disc.
For example, sometimes it is unable to stop the playback of copyright message of the disc when the STOP (■) button is pressed. Alternatively, the "✋" may also indicate that the feature is not available for the disc.

Notes on region numbers

The region number of this DVD/VCR is 1. If region numbers, which stand for their playable area, are printed on your DVD video disc and you do not find 1 or ALL, disc playback will not be allowed by the player. (In this case, the DVD/VCR will display a message on-screen.)

On Video CDs

This DVD/VCR supports Video CDs equipped with the PBC (Version 2.0) function. (PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

- **Video CD not equipped with PBC function (Version 1.1)**
  Sound and movie can be played on this DVD/VCR in the same way as an audio CD.
- **Video CD equipped with PBC function (Version 2.0)**
  In addition to operation of a Video CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

Playable discs

This DVD/VCR can play the following discs.

	Disc Mark	Contents	Disc Size	Maximum playback time
DVD video discs	DVD VIDEO DVD VIDEO	Audio + Video (moving pictures)	12 cm	Approx. 4 hours (single sided disc)
				Approx. 8 hours (double sided disc)
			8 cm	Approx. 80 minutes (single sided disc)
				Approx. 160 minutes (double sided disc)
Video CDs	COMPACT disc DIGITAL VIDEO	Audio + Video (moving pictures)	12 cm	Approx. 74 minutes
			8 cm	Approx. 20 minutes
Audio CDs	COMPACT disc DIGITAL AUDIO	Audio	12 cm	Approx. 74 minutes
			8 cm (CD single)	Approx. 20 minutes

The following discs are also available.
- ● DVD-R/RW discs of DVD video format
- ● CD-R/CD-RW discs of CD-DA, Video CD, SVCD, MP3, WMA or JPEG format
- ● Kodak Picture CD and FUJICOLOR CD format

Some of these discs may be incompatible.

- You cannot play discs other than those listed above.
- You cannot play discs of DVD-RAM, DVD-ROM, Photo CD, etc., or non standardized discs even if they may be labeled as above.
- Some CD-R/RWs cannot be played back depending on the recording conditions.
- This DVD/VCR uses the NTSC color system, and cannot play DVD video discs recorded in any other color system (PAL, SECAM, etc.).

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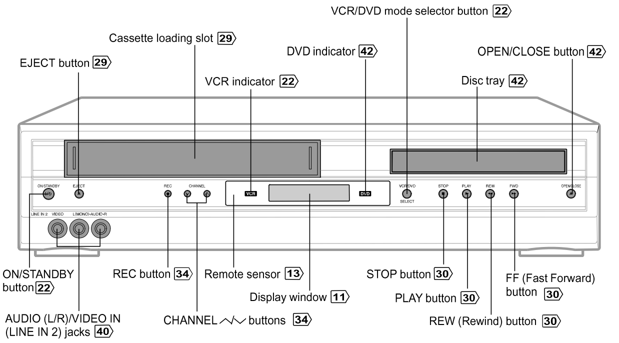
Identification of controls

See the page in ▭〉 for details.

Front panel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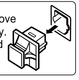
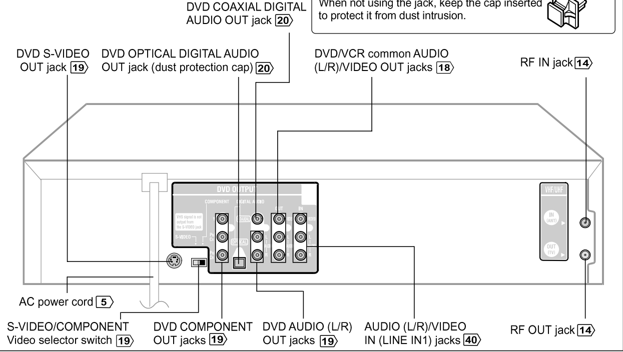
REW (Rewind) button 30

Rear panel

When connecting the optical digital cable, remove the cap and fit the connector into the jack firmly. When not using the jack, keep the cap inserted to protect it from dust intrusion.




DVD COAXIAL DIGITAL AUDIO OUT jack 20
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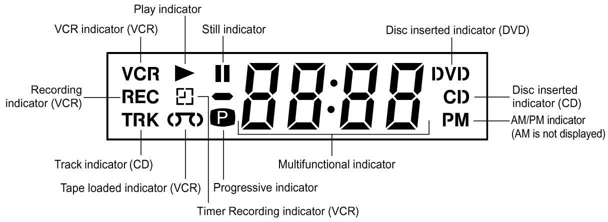
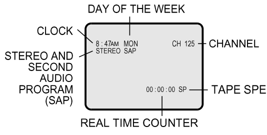
Display window


Play indicator
VCR indicator (VCR)
Still indicator
Disc inserted indicator (DVD)
Recording indicator (VCR)
VCR
REC
TRK
DVD
CD
PM
Disc inserted indicator (CD)
AM/PM indicator (AM is not displayed)
Track indicator (CD)
Multifunctional indicator
Tape loaded indicator (VCR)
Progressive indicator
Timer Recording indicator (VCR)

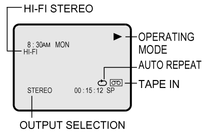
VCR operation status

Press **CALL** to display information on screen.
To cancel the display, press **CALL** again.

While watching TV


DAY OF THE WEEK
CLOCK
8 : 47AM MON
STEREO SAP
CH 125
CHANNEL
STEREO AND SECOND AUDIO PROGRAM (SAP)
00 : 00 : 00 SP
TAPE SPEED
REAL TIME COUNTER

While operating a tape

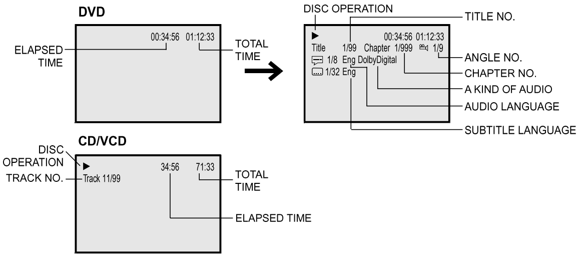

HI-FI STEREO
8 : 30AM MON
HI-FI
OPERATING MODE
AUTO REPEAT
TAPE IN
STEREO
00 : 15 : 12 SP
OUTPUT SELECTION

VCR Icons

Recording : ●
Rec/Pause : ●❚❚
Play : ▶
Stop : ■
Eject : ⏏

DVD/CD/VCD operation status

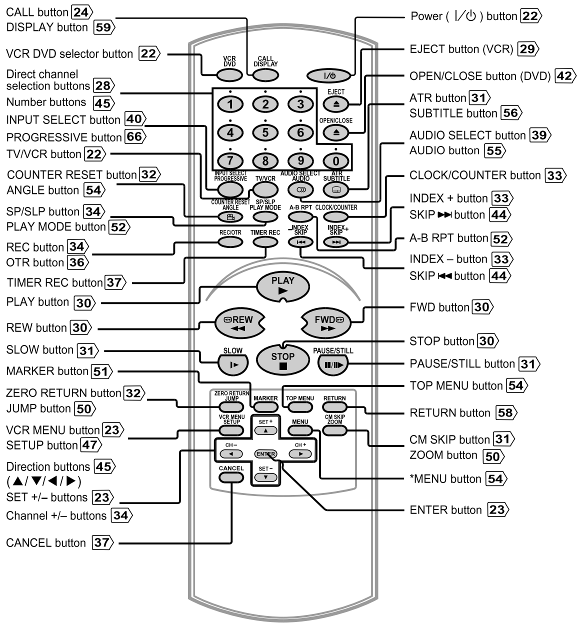
Each press of **DISPLAY**, the status display of the disc will appear on the screen and change as follows.


DVD
ELAPSED TIME
00:34:56 01:12:33
TOTAL TIME
DISC OPERATION
TITLE NO.
Title 1/99 Chapter 1/999 1/9
1/8 Eng DolbyDigital
1/32 Eng
ANGLE NO.
CHAPTER NO.
A KIND OF AUDIO
AUDIO LANGUAGE
SUBTITLE LANGUAGE
CD/VCD
DISC OPERATION
TRACK NO.
Track 11/99
34:56 71:33
TOTAL TIME
ELAPSED TIME

Identification of Controls (continued)

The instructions in this manual describe the functions on the remote control. See the page in ▭ for details.

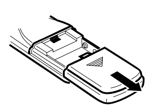
Remote control


CALL button 24
DISPLAY button 59
VCR DVD selector button 22
Direct channel selection buttons 28
Number buttons 45
INPUT SELECT button 40
PROGRESSIVE button 66
TV/VCR button 22
COUNTER RESET button 32
ANGLE button 54
SP/SLP button 34
PLAY MODE button 52
REC button 34
OTR button 36
TIMER REC button 37
PLAY button 30
REW button 30
SLOW button 31
MARKER button 51
ZERO RETURN button 32
JUMP button 50
VCR MENU button 23
SETUP button 47
Direction buttons 45
(▲/▼/◀/▶)
SET +/– buttons 23
Channel +/– buttons 34
CANCEL button 37
Power (|/⏻) button 22
EJECT button (VCR) 29
OPEN/CLOSE button (DVD) 42
ATR button 31
SUBTITLE button 56
AUDIO SELECT button 39
AUDIO button 55
CLOCK/COUNTER button 33
INDEX + button 33
SKIP ⏭ button 44
A-B RPT button 52
INDEX – button 33
SKIP ⏮ button 44
FWD button 30
STOP button 30
PAUSE/STILL button 31
TOP MENU button 54
RETURN button 58
CM SKIP button 31
ZOOM button 50
*MENU button 54
ENTER button 23
VCR DVD
CALL DISPLAY
EJECT
OPEN/CLOSE
1 2 3 4 5 6 7 8 9 0
INPUT SELECT PROGRESSIVE
TV/VCR
AUDIO SELECT AUDIO
ATR SUBTITLE
COUNTER RESET ANGLE
SP/SLP PLAY MODE
A-B RPT
CLOCK/COUNTER
REC/OTR
TIMER REC
INDEX – SKIP
INDEX + SKIP
PLAY
REW
FWD
SLOW
STOP
PAUSE/STILL
ZERO RETURN JUMP
MARKER
TOP MENU
RETURN
VCR MENU SETUP
SET +
MENU
CM SKIP ZOOM
CH –
CH +
CANCEL
ENTER
SET –

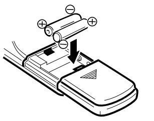
* **MENU button**
Use the MENU button to display the menu included on many DVD video discs. To operate a menu, follow the instructions in "DVD Menu." 54

Inserting batteries

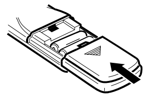
1 Slide the battery compartment cover in the direction of the arrow.



2 Install two "R03/AAA" batteries (supplied), paying attention to the polarity diagram in the battery compartment.



3 Replace the compartment cover.



Battery precautions

The precautions below should be followed when using batteries in this device:

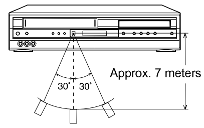
1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device. To avoid a potential short circuit, insert the "–" end first.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions.)

Remote control basics

- Press **POWER (|/⏻)** to turn the DVD VCR on or off.
- Select your desired operating mode (DVD or VCR) using **VCR DVD.** (DVD or VCR indicator on the front panel will show you which mode is selected.)
- Press **CH +** or **CH** – to move through the channels one channel at a time.
- The **CH +/– (◀ / ▶)** and **SET +/– (▲/▼)** are also used to navigate on-screen menu system.
- You can directly access specific channels using **Number buttons.**
- Each press of **VCR DVD** on the remote control, switches the screen between the VCR screen (VCR mode) and the DVD screen (DVD mode).

Operation

- Aim the remote control at the remote sensor and press control buttons to operate.
- Operate the remote control within 30° angle on either side of the remote sensor, up to a distance of Approx. 7 meters.


Approx. 7 meters
30˚
30˚

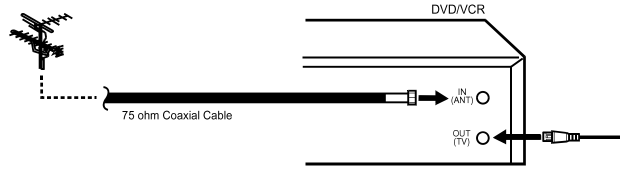
Antenna connections

If you are using an antenna system, follow these instructions. If you are a Cable TV subscriber, skip ahead to page 16 for the proper connections.

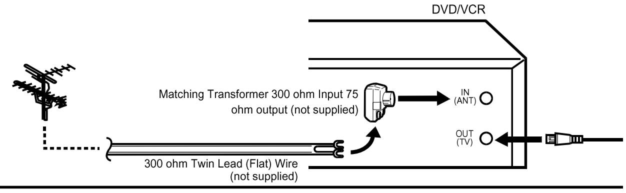
Antenna to DVD/VCR connection

The DVD/VCR must be connected "between" the antenna and the TV. First, disconnect the antenna from the TV and connect it to the DVD/VCR. Then connect the DVD/VCR to the TV. Below are 3 common methods of connecting an antenna system to a DVD/VCR. Find the type of antenna system you are using and follow the connection diagram.

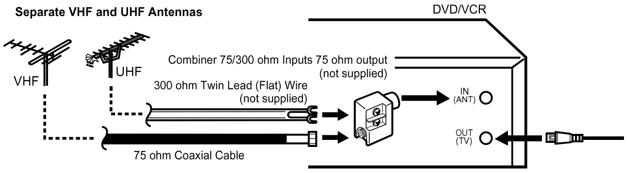
1 **Combination VHF/UHF Antenna with 75 ohm Coaxial Cable**


DVD/VCR
75 ohm Coaxial Cable
IN (ANT)
OUT (TV)

2 **Combination VHF/UHF Antenna with 300 ohm Twin Lead (Flat) Wire**


DVD/VCR
Matching Transformer 300 ohm Input 75 ohm output (not supplied)
300 ohm Twin Lead (Flat) Wire (not supplied)
IN (ANT)
OUT (TV)

3 **Separate VHF and UHF Antennas**


DVD/VCR
VHF
UHF
Combiner 75/300 ohm Inputs 75 ohm output (not supplied)
300 ohm Twin Lead (Flat) Wire (not supplied)
75 ohm Coaxial Cable
IN (ANT)
OUT (TV)

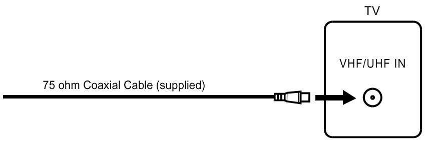
Note: If both VHF and UHF antennas have 300 ohm twin lead (flat) wires, use a combiner having two 300 ohm inputs and one 75 ohm output.

Notes:
- A clear picture will not be obtained by the DVD/VCR unless the antenna signal is good. Connect the antenna to the DVD/VCR properly.
- For better quality recording, an indoor antenna or a telescopic antenna is not recommended. The use of an outdoor type antenna is required.
- If you are not sure about the connection, please refer to qualified service personnel.

DVD/VCR to TV connection

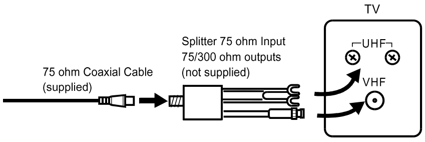
After you have connected the antenna to the DVD/VCR, you must connect the DVD/VCR to the TV.
Below are 3 common methods of connecting your DVD/VCR to a TV. Find the type of TV you are using and follow the connection diagram.

This DVD/VCR has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the DVD/VCR to the TV for VHF and UHF reception.


TV
VHF/UHF IN
75 ohm Coaxial Cable (supplied)

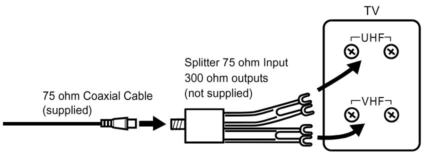
Note: **If a VHF or UHF antenna is used, set the TV/CABLE menu option to the "TV" mode.**

TV with single 75 ohm VHF/UHF antenna input


TV
Splitter 75 ohm Input 75/300 ohm outputs (not supplied)
75 ohm Coaxial Cable (supplied)
UHF
VHF

Note: **If a VHF or UHF antenna is used, set the TV/CABLE menu option to the "TV" mode.**

TV with 300 ohm UHF and 75 ohm VHF antenna inputs

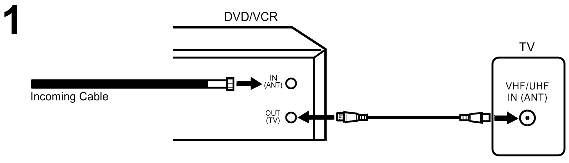

TV
Splitter 75 ohm Input 300 ohm outputs (not supplied)
75 ohm Coaxial Cable (supplied)
UHF
VHF

Note: **If a VHF or UHF antenna is used, set the TV/CABLE menu option to the "TV" mode.**

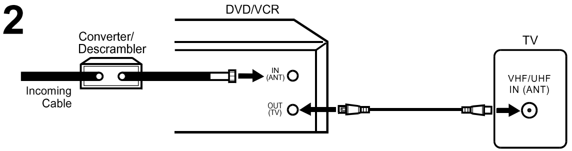
TV with 300 ohm UHF and 300 ohm VHF antenna inputs

Cable TV connections

Many cable companies offer services permitting reception of extra channels including pay or subscription channels. This DVD/VCR has an extended tuning range and can be tuned to most cable channels without using a cable company supplied converter box, except for those premium channels which are intentionally scrambled. If you subscribe to a premium channel which is scrambled, you must have a descrambler box for proper reception.


1
DVD/VCR
TV
Incoming Cable
IN (ANT)
OUT (TV)
VHF/UHF IN (ANT)

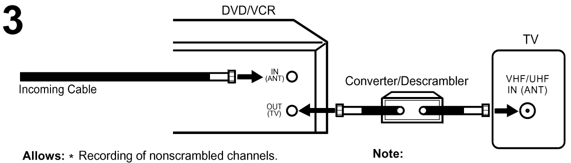
Allows:
- ⁎ Recording of nonscrambled channels.
- ⁎ Use of the programmable timer.
- ⁎ Recording of one channel while watching another.


2
DVD/VCR
Converter/ Descrambler
TV
Incoming Cable
IN (ANT)
OUT (TV)
VHF/UHF IN (ANT)

Allows:
- ⁎ Recording of channels through the converter box (scrambled and unscrambled).
- ⁎ Using the programmable timer to record only the channel selected at the converter box.

Prevents:
- ⁎ Recording one channel while watching another.
- ⁎ Using the DVD/VCR tuner to select channels.

Note:
To record from converter/descrambler, DVD/VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.


3
DVD/VCR
TV
Incoming Cable
IN (ANT)
OUT (TV)
Converter/Descrambler
VHF/UHF IN (ANT)

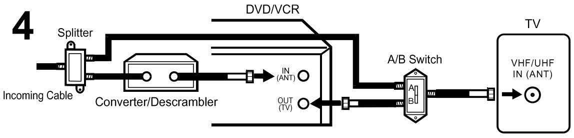
Allows:
- ⁎ Recording of nonscrambled channels.
- ⁎ Use of the programmable timer.
- ⁎ Recording an unscrambled channel while watching any channel selected at the converter box.

Prevents: Recording scrambled channels.

Note:
If you are playing a tape or using the tuner built into the DVD/VCR, the converter must be set to the video channel output of the DVD/VCR (either 3 or 4).

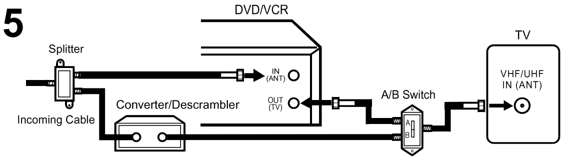
Note: Whenever a Converter/Descrambler box is placed before the DVD/VCR, you must tune the DVD/VCR to the output of the Converter/Descrambler box, usually channel 3 or 4.

IMPORTANT: Make sure the TV/CABLE menu option is set to the "CABLE" mode.
This DVD/VCR cannot receive scrambled programs since it does not contain a descrambler. In order to receive scrambled programs, your existing descrambler must be used. Descrambler boxes are available from cable companies. Consult your local cable company for more information concerning connection to their descrambler equipment. There are many ways to connect your DVD/VCR to a cable system. Below are six common methods of connection.


4
DVD/VCR
Splitter
TV
A/B Switch
Incoming Cable
Converter/Descrambler
IN (ANT)
OUT (TV)
A
B
VHF/UHF IN (ANT)

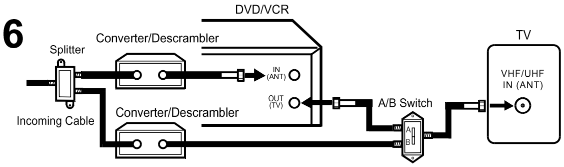
Allows:
- ⁎ Recording of one channel while watching another.
- ⁎ Using the programmable timer to record only the channel selected at the converter box.
- ⁎ Recording of all channels through the converter box.

Prevents:
- ⁎ Watching scrambled channels while recording another channel.
- ⁎ Using the DVD/VCR tuner to select channels.


5
DVD/VCR
Splitter
TV
IN (ANT)
OUT (TV)
Converter/Descrambler
A/B Switch
Incoming Cable
A
B
VHF/UHF IN (ANT)

Allows:
- ⁎ Recording of nonscrambled channels.
- ⁎ Recording of one channel while watching another.
- ⁎ Watching premium channels through the converter while recording nonscrambled channels.
- ⁎ Using the programmable timer.

Prevents: Recording scrambled channels.


6
DVD/VCR
Converter/Descrambler
Splitter
TV
IN (ANT)
OUT (TV)
A/B Switch
Converter/Descrambler
Incoming Cable
A
B
VHF/UHF IN (ANT)

Allows:
- ⁎ Recording of all channels through the converter box.
- ⁎ Recording a scrambled or unscrambled channel while watching another (scrambled or unscrambled) channel.
- ⁎ Using the programmable timer to record only the channel selected at the converter box.

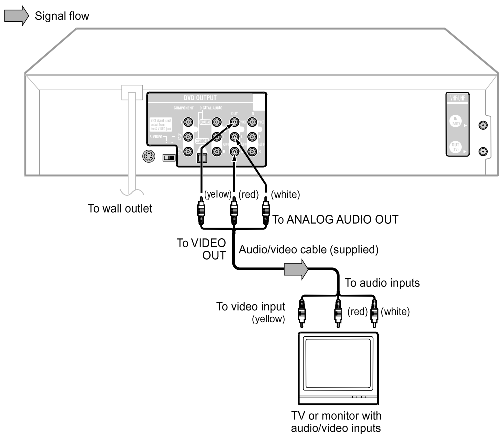
Prevents: Using the DVD/VCR tuner to select channels.

Connecting to a TV

Connect the DVD/VCR to your TV.

Note: This method transports VHS and DVD-video signals. For enhanced DVD-video performance, we recommend you also connect the S-video or ColorStream® component video outputs to your TV/monitor. (See page 19.)

Connecting to a TV


Signal flow
DVD OUTPUT
To wall outlet
(yellow)
(red)
(white)
To ANALOG AUDIO OUT
To VIDEO OUT
Audio/video cable (supplied)
To audio inputs
To video input (yellow)
(red)
(white)

TV or monitor with audio/video inputs

Notes:
- Refer to the owner's manual of the connected TV as well.
- When you connect the DVD/VCR to your TV, be sure to turn off the power and unplug both units from the wall outlet before making any connections.
- If your television set has one audio input, connect the left and right audio outputs of the DVD/VCR to a Y cable adapter (not supplied) and then connect to your TV.
- Connect the DVD/VCR directly to your TV. If you connect the DVD/VCR to a VCR, TV/VCR combination or video selector, the playback picture may be distorted as DVD video discs are copy protected.

S-video output

An S-Video connection is superior to Video (Yellow) output. Use this method for DVD playback when the connected television has S-Video input, and does not have component video inputs.

Component video outputs

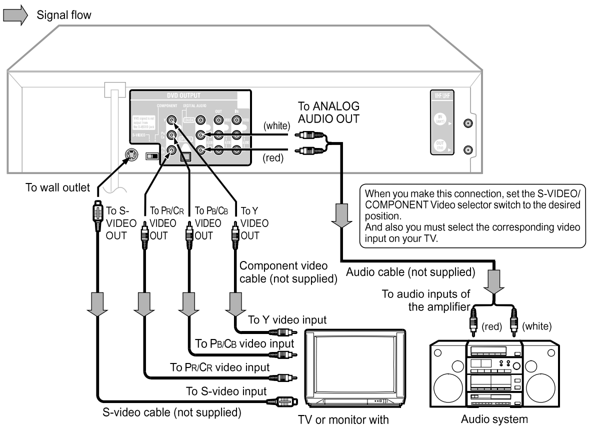
■ PROGRESSIVE outputs
Some TVs or monitors are equipped with component video inputs that are capable of reproducing a progressively scanned video signal. Connecting to these inputs allows you to view the highest quality pictures with less flicker.

■ INTERLACED outputs
Some TVs or monitors are equipped with component video inputs. Connecting to these inputs allows you to enjoy the highest quality DVD picture playback.

Notes:
- Actual labels for component video inputs may vary depending on the TV manufacturer. (ex. Y, R-Y, B-Y or Y, CB, CR)
- In some TVs or monitors, the color levels of the playback picture may be reduced slightly or the tint may change. In such a case, adjust the TV or monitor for optimum performance.

Connecting to an audio system and TV equipped with S-video input/component video inputs

Note: The S-video output and component video output transports the DVD-video signal exclusively and will deliver enhanced DVD video picture performance.


Signal flow
DVD OUTPUT
To ANALOG AUDIO OUT
(white)
(red)
To wall outlet
To S-VIDEO OUT
To PR/CR VIDEO OUT
To PB/CB VIDEO OUT
To Y VIDEO OUT
Component video cable (not supplied)
Audio cable (not supplied)
To audio inputs of the amplifier
(red)
(white)
To Y video input
To PB/CB video input
To PR/CR video input
To S-video input
S-video cable (not supplied)
TV or monitor with ColorStream® component video inputs
Audio system

When you make this connection, set the S-VIDEO/COMPONENT Video selector switch to the desired position.
And also you must select the corresponding video input on your TV.

If you connect the DVD/VCR to your TV with the DVD OUT jacks, select the corresponding video input on your television to watch DVD video discs.

Notes:
- Refer to the owner's manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- If you place the DVD/VCR near a tuner or radio, the radio broadcast sound might be distorted. In this case, place the DVD/VCR away from the tuner and radio.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver's volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR's power cord. If you leave the amplifier power on, the speakers may be damaged.
- **When connecting to a TV using the Video or S-video jack, make sure that the Progressive indicator "P" on the display window is not lit. If it is lit, the Video and S-video outputs do not feed the correct signals and you cannot see any picture. To turn off the Progressive indicator, select PROGRESSIVE scan Off (see page 66).**

Connecting to optional equipment

You can enjoy high quality dynamic sounds of DVD video discs or audio CDs by connecting the DVD/VCR to optional audio equipment.

For connection to your TV, see “Connecting to a TV” 18 19.

• This selection uses the following reference mark.

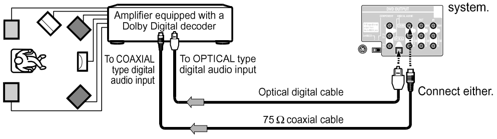
▩ : Front speaker	▯ : Center speaker
☐ : Rear speaker	➡ : Signal flow
◫ : Sub woofer	

Connecting to an amplifier equipped with a Dolby Digital decoder

Dolby Digital
Dolby Digital is the surround sound technology used in theaters showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion picture and live concert DVD video discs with this dynamic realistic sound by connecting the DVD/VCR to a 6 channel amplifier equipped with a Dolby Digital decoder or Dolby Digital processor. If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.

Manufactured under license from Dolby Laboratories. “Dolby” “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

- Use DVD video discs encoded via the Dolby Digital recording system.

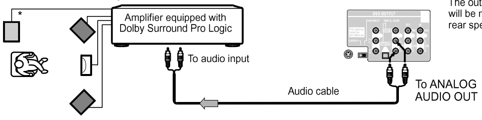

Amplifier equipped with a Dolby Digital decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable
75 Ω coaxial cable
Connect either.
DVD OUTPUT

Connecting to an amplifier equipped with Dolby Surround Pro Logic

Dolby Surround Pro Logic
You can enjoy the dynamic realistic sound of Dolby Surround Pro Logic by connecting an amplifier and speaker system (right and left front speakers, a center speaker, and one or two rear speakers).

- ■ With an amplifier equipped with Dolby Digital
  Connect the equipment the same way as described in “Connecting to an amplifier equipped with a Dolby Digital decoder.” Refer to that amplifier’s owner’s manual and set the amplifier so you can enjoy Dolby Surround Pro Logic sound.
- ■ With an amplifier not equipped with Dolby Digital
  Connect the equipment as follows.
  • This connection is only suitable for Video CDs and Audio CDs.

* Connect one or two rear speakers. The output sound from the rear speakers will be monaural even if you connect two rear speakers.

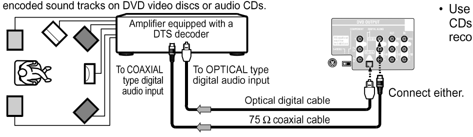

*
Amplifier equipped with Dolby Surround Pro Logic
To audio input
Audio cable
To ANALOG AUDIO OUT
DVD OUTPUT

Connecting to an amplifier equipped with a DTS decoder

Digital Theater Systems (DTS)
DTS is a high quality surround technology used in theaters and now available for home use, on DVD video discs or audio CDs.
If you have a DTS decoder or processor, you can obtain the full benefit of 5.1 channel DTS encoded sound tracks on DVD video discs or audio CDs.

“DTS” and “DTS Digital Out” are trademarks of Digital Theater Systems, Inc.

- Use DVD video discs or audio CDs encoded via the DTS recording system.

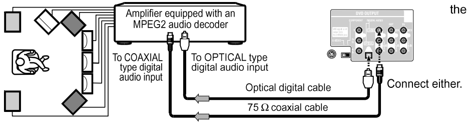

Amplifier equipped with a DTS decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable
75 Ω coaxial cable
Connect either.
DVD OUTPUT

Warning
When playing DTS-encoded discs (audio CDs), excessive noise may be output from the analog stereo jacks. To avoid possible damage to the audio system, you should take proper precautions when the ANALOG AUDIO OUT (L/R) jacks of the DVD/VCR are connected to an amplification system. (Do not leave the ANALOG AUDIO OUT (L/R) wires dangling.) To enjoy DTS Digital Surround™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.

Connecting to an amplifier equipped with an MPEG2 audio decoder

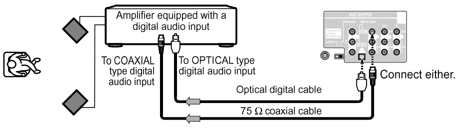
MPEG2 sound
You can enjoy motion picture and live concert DVD video discs with dynamic realistic sound by connecting an amplifier equipped with an MPEG2 audio decoder or MPEG2 audio processor.

- Use DVD video discs encoded via the MPEG2 recording system.


Amplifier equipped with an MPEG2 audio decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable
75 Ω coaxial cable
Connect either.
DVD OUTPUT

Connecting to an amplifier equipped with a digital audio input

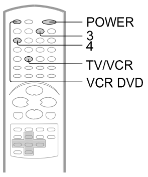
2 channel digital stereo
You can enjoy the dynamic sound of 2 channel digital stereo by connecting an amplifier equipped with a digital audio input and speaker system (right and left front speakers).


Amplifier equipped with a digital audio input
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable
75 Ω coaxial cable
Connect either.
DVD OUTPUT

Notes:
- DO NOT connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the AC-3 RF input of a Dolby Digital Receiver. This input on your A/V Receiver is reserved for Laserdisc use only and is incompatible with the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.
- Connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the “OPTICAL” or “COAXIAL” input of a Receiver or Processor.
- Refer to the owner’s manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver’s volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR’s power cord. If you leave the amplifier power on, the speakers may be damaged.

Setting the video channel

When a TV is connected with the 75 ohm coaxial cable only.
To view playback of a recorded tape or DVD disc, or to watch a program selected by the VCR's channel selector, the TV must be set to channel 3 or 4 (video channel).

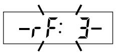

POWER
3
4
TV/VCR
VCR DVD

Setting the video channel

1 **Press and hold 3 or 4 on the remote for 3 seconds in standby mode.**

3 OR 4

The video channel will start to flash for 3 seconds in the display window.



2 **Press POWER to turn on the DVD/VCR.**

I/⏻

3 **Press VCR DVD selector to select the VCR mode.**

VCR DVD

The VCR indicator on the front panel will light.

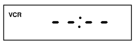
VCR

4 **Turn ON the TV and set to CH 3 or 4 to correspond with the channel selected in step 1.**

5 **Press TV/VCR to select the VCR position.**

TV/VCR

The VCR indicator will appear in the display window.



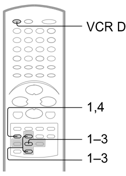
6 Select any channel to receive a TV station in your area. The channel number will appear on the screen for about 4 seconds.

■ For a push-button TV tuner
If CH 3 or 4 corresponding to the video channel cannot be tuned on your TV, proceed as follows: set the VCR 3/4 channel selector and the TV to CH 3 or 4, play back a prerecorded tape and tune the TV to receive a sharp color picture from the video cassette recorder. Refer to your TV owner's manual for details.

Note:
If the unit does not operate properly, or No key operation (by the unit and/or the remote control): Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again.

Setting the language

You can choose from three different languages (English, French and Spanish) for the on-screen displays.


VCR DVD
1,4
1–3
1–3

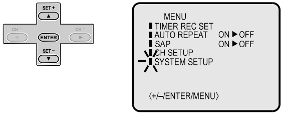
Setting the language

Preparation:
- Turn ON the TV and select to the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)

1 **Press VCR MENU.**

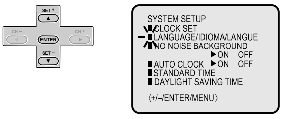
VCR MENU SETUP

The VCR menu screen will appear.
Press **SET +** or **–** to select “SYSTEM SETUP”, then press **ENTER.**
If you use the unit for the first time and press **VCR MENU**, instead of the main menu screen the “SYSTEM SETUP” menu screen in step **2** may appear.


SET +
CH –
ENTER
CH +
SET –

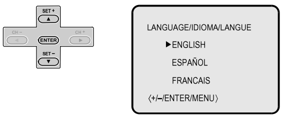
MENU
▮ TIMER REC SET
▮ AUTO REPEAT ON ▶ OFF
▮ SAP ON ▶ OFF
▮ CH SETUP
▮ SYSTEM SETUP
〈+/–/ENTER/MENU〉

2 **Press SET + or – to select “LANGUAGE”, then press ENTER.**


SET +
CH –
ENTER
CH +
SET –

SYSTEM SETUP
▮ CLOCK SET
▮ LANGUAGE/IDIOMA/LANGUE
▮ NO NOISE BACKGROUND
▶ON OFF
▮ AUTO CLOCK ▶ON OFF
▮ STANDARD TIME
▮ DAYLIGHT SAVING TIME
〈+/–/ENTER/MENU〉

3 **Press SET + or – to select the desired language: English (ENGLISH), Spanish (ESPAÑOL) or French (FRANCAIS), then press ENTER.**


SET +
CH –
ENTER
CH +
SET –

LANGUAGE/IDIOMA/LANGUE
▶ENGLISH
ESPAÑOL
FRANCAIS
〈+/–/ENTER/MENU〉

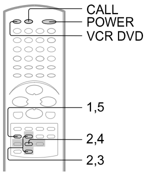
4 **Press VCR MENU until the MENU screen is cleared.**

VCR MENU SETUP

Notes:
- Both the VCR and the DVD have their own player menus 57.
- If no buttons are pressed for more than 60 seconds, the VCR MENU screen will return to normal TV-operation automatically.

Clock setting

The AUTO CLOCK function will automatically set the built-in clock (Month, Day, Year and Time) when the DVD/VCR is connected to an Antenna or Cable system and it is turned off. The DVD/VCR searches for a station in your area containing the necessary AUTO CLOCK setting signals. Once received, it will take approximately 4 minutes for the clock to set itself automatically.


CALL
POWER
VCR DVD
1,5
2,4
2,3

AUTO CLOCK setting

Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)

1 Connect the Antenna or Cable system.

- If you use a cable box, turn it on.

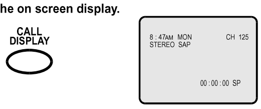
2 Plug the AC Power cord to the AC outlet.

3 Make sure the DVD/VCR is turned off.

- If you press **POWER**, the Auto Clock set is not programmed.

4 Wait at least three minutes and press POWER.

5 Press CALL to check the clock setting on the on screen display.


CALL
DISPLAY
8 : 47AM MON
CH 125
STEREO SAP
00 : 00 : 00 SP

6 If the clock is not set, check the antenna condition. The AUTO CLOCK may not function properly if the reception condition is not good.

AUTO CLOCK adjustment

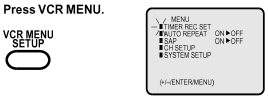
The auto clock adjustment will be updated at 6:00 AM, 12:00 PM and 6:00 PM everyday when the DVD/VCR turned off.

- If you use a cable box and you want AUTO CLOCK adjustment to be performed, the cable box must be left on.
- The AUTO CLOCK adjustment is not effective when there is a difference of more than 5 minutes exists between the built-in clock time and the actual time.

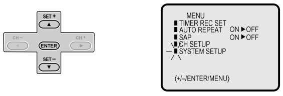
To set AUTO CLOCK to off

When shipped from factory the AUTO CLOCK is set to "ON". But if you do not want AUTO CLOCK setting:

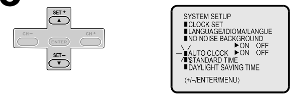
1 Press VCR MENU.


VCR MENU
SETUP
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

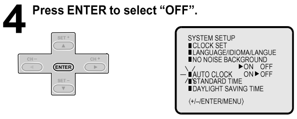
2 Press SET + or – to select "SYSTEM SETUP", then press ENTER.


SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

3 Press SET + or – to select "AUTO CLOCK".


SET +
CH –
ENTER
CH +
SET –
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

4 Press ENTER to select "OFF".


SET +
CH –
ENTER
CH +
SET –
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ON ▶OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

5 Press VCR MENU repeatedly to return to the normal screen.

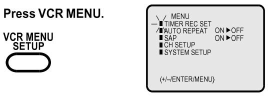
VCR MENU
SETUP

- When the AUTO CLOCK is set to "OFF", the AUTO CLOCK adjustment does not function.
- Set the clock manually 26.

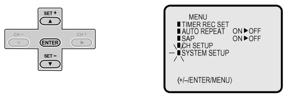
To set STANDARD TIME

In the rare event that you live within broadcast range of two stations in two different time zones, the DVD/VCR may recognize the wrong station for the AUTO CLOCK setting. To correct the situation:

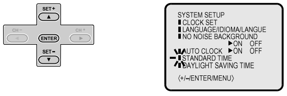
1 Press VCR MENU.


VCR MENU
SETUP
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

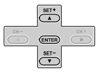
2 Press SET + or – to select "SYSTEM SETUP", then press ENTER.


SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

3 Press SET + or – to select "STANDARD TIME", then press ENTER.


SET +
CH –
ENTER
CH +
SET –
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

4 Press SET + or – to select your time zone, then press ENTER.


SET +
CH –
ENTER
CH +
SET –

ATLANTIC	: GMT–4hours
EASTERN	: GMT–5hours
CENTRAL	: GMT–6hours
MOUNTAIN	: GMT–7hours
PACIFIC	: GMT–8hours
ALASKA	: GMT–9hours
HAWAII	: GMT–10hours
AUTO	: AUTO SET

(GMT: Greenwich Mean Time)

5 Press VCR MENU twice to return to the normal screen.

VCR MENU
SETUP

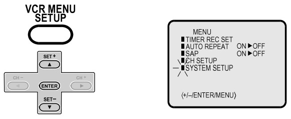
Notes:

- To be able to select the standard time, the clock must first be set by AUTO CLOCK once.
- If you live in Newfoundland and the AUTO CLOCK does not function properly, set the AUTO CLOCK menu option to "OFF" and set the clock manually.

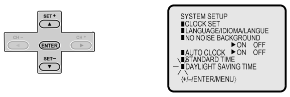
To set DAYLIGHT SAVING TIME

You can set the DAYLIGHT SAVING TIME automatically or manually.

1 Press VCR MENU.
Press SET + or – to select "SYSTEM SETUP", then press ENTER.


VCR MENU
SETUP
SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

2 Press SET + or – to select "DAYLIGHT SAVING TIME", then press ENTER.

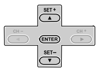

SET +
CH –
ENTER
CH +
SET –
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

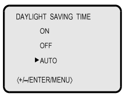
3 Press SET + or – to select one of the options, then press ENTER. Press VCR MENU until the MENU screen is cleared.

VCR MENU
SETUP

ON:	for manual setting (forward one hour)
OFF:	for manual setting (back one hour)
AUTO:	for automatic setting (read XDS in the signal)

When you want to set the DAYLIGHT SAVING TIME manually, on the first Sunday in April you set to "ON", and on the last Sunday in October you set to "OFF".


SET +
CH –
ENTER
CH +
SET –

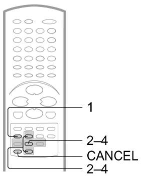

DAYLIGHT SAVING TIME
ON
OFF
▶AUTO
⟨+/–/ENTER/MENU⟩

Notes:

- When shipped from factory, the DAYLIGHT SAVING TIME is set to "AUTO" position.
- When the clock is not set, DAYLIGHT SAVING TIME setting is not available.
- When there is no DAYLIGHT SAVING TIME in your area, always select "OFF" position in step 3.

Clock setting (continued)

If the AUTO CLOCK process did not set the date and time correctly, you must set them manually for timer recording and DAYLIGHT SAVING TIME.


1
2–4
CANCEL
2–4

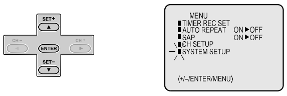
Manual clock setting

EXAMPLE:	Setting the clock to "8:30 AM" September, 24 (FRI), 2004.

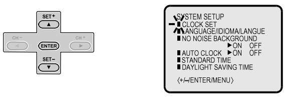
1 Press VCR MENU.

VCR MENU
SETUP

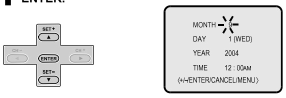
2 Press SET + or – to select "SYSTEM SETUP", then press ENTER.


SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

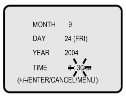
3 Press SET + or – to select "CLOCK SET", then press ENTER.


SET +
CH –
ENTER
CH +
SET –
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

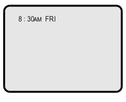
4 Press SET + or – to set the month, then press ENTER.


SET +
CH –
ENTER
CH +
SET –
MONTH 9
DAY 1 (WED)
YEAR 2004
TIME 12 : 00AM
⟨+/–/ENTER/CANCEL/MENU⟩

5 Set the day, year and time as in step 4.


MONTH 9
DAY 24 (FRI)
YEAR 2004
TIME 8 : 30AM
⟨+/–/ENTER/CANCEL/MENU⟩

6 After setting the clock, date and time starts functioning automatically.

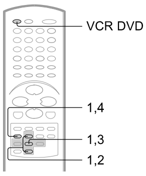


■ **To make corrections any time during the process**
Press **CANCEL** repeatedly until the item you want to change blinks, then press **SET +** or **–**.

Note:
After a power failure or disconnection of the power, the timer settings will be lost. In this case, reset the present time.

Tuner setting

This DVD/VCR is equipped with a channel memory feature which allows channels to skip up or down to the next channel set into memory, skipping over unwanted channels. Before selecting channels, they must be programmed into the DVD/VCR's memory. In addition to normal VHF and UHF channels, this DVD/VCR can receive up to 113 Cable TV channels. To use this DVD/VCR with an antenna, set the TV/CABLE menu option to the TV mode. When shipped from the factory, this menu option is in the CABLE mode.

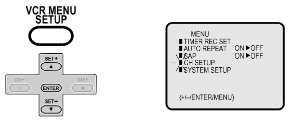

VCR DVD
1,4
1,3
1,2

TV/CABLE selection

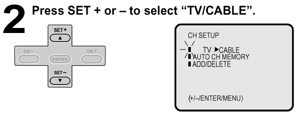
Preparation:

- Turn ON the TV and select to the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)

1 Press VCR MENU. Press SET + or – to select "CH SETUP", then press ENTER.

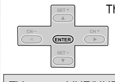

VCR MENU
SETUP
SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

2 Press SET + or – to select "TV/CABLE".

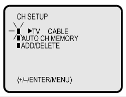

SET +
CH –
ENTER
CH +
SET –
CH SETUP
TV ▶CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

3 Press ENTER to select the TV or CABLE mode.

The arrow indicates the selected mode.


SET +
CH –
ENTER
CH +
SET –

TV	- VHF/UHF channels
CABLE	- Cable TV channels


CH SETUP
▶TV CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

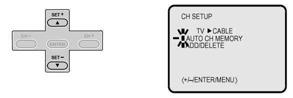
4 Press VCR MENU until the menu screen is cleared.

VCR MENU
SETUP

Note:
You can't select "CH SETUP" if you set the channel to "L1" or "L2".

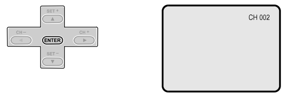
Setting channels automatically

1 Repeat left step 1 and press SET + or – to select "AUTO CH MEMORY".

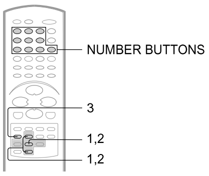

SET +
CH –
ENTER
CH +
SET –
CH SETUP
TV ▶CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

2 Press ENTER.

Auto tuning will begin. The channel display will count up and when finished, the screen returns to normal.

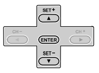

SET +
CH –
ENTER
CH +
SET –
CH 002

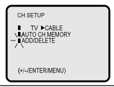
Tuner setting (continued)



To ADD/DELETE channels

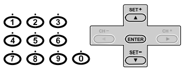
1 **Repeat the step 1 on page 27. Then press SET + or – to select the "ADD/DELETE" and press ENTER.**

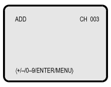




2 **To Add or Delete desired channels**

1. Press **Number buttons** or **SET +** or **–** to select a channel number you want to add or delete.
2. **To add channels**
   Press **ENTER** until "ADD" appears on the screen.
   To delete channels
   Press **ENTER** until "DELETE" appears on the screen. The channel number will blink.
3. Repeat 1 to 2 to add or delete other channel.





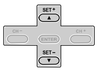
3 **Press VCR MENU until the menu screen is cleared.**

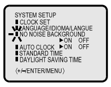
VCR MENU
SETUP

Noise elimination

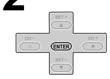
When you don't want to receive a weak signal broadcast, a Blue back screen can be obtained by selecting the NO NOISE BACKGROUND "ON". When the unit is shipped from the factory, the NO NOISE BACKGROUND is set to "ON".

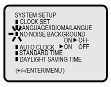
1 **Repeat the steps 1~2 on page 26 and press SET + or – to select "NO NOISE BACKGROUND".**





2 **Press ENTER to select "ON" or "OFF" position.**



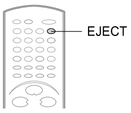


3 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

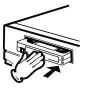
Loading and unloading a cassette tape

Use only video cassette tapes marked VHS and S VHS.

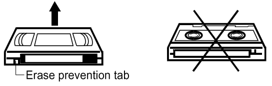


Loading

Push the center of the tape until it is automatically inserted.



Insert the cassette tape with its labeled side facing up and the erase prevention tab positioned at your left. An inverted cassette tape cannot be inserted.

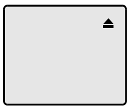


Automatic power ON
When you insert a cassette tape the DVD/VCR power will turn ON automatically.

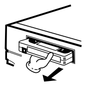
Automatic playback
When loading a cassette tape without an erase prevention tab, playback will start automatically.

Unloading

1 Press **EJECT** on the front panel or on the Remote.



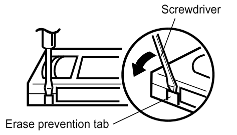
2 Remove the cassette tape.



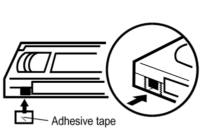
Automatic tape eject
This DVD/VCR will automatically rewind the tape when the tape has ended. Once the tape is rewound to its beginning, the cassette tape will be ejected automatically.

To prevent accidental erasure

To prevent accidental erasure
Remove the erase prevention tab with a screwdriver.



To record again
Cover the hole with a piece of adhesive tape.



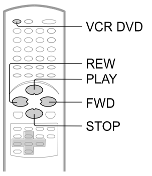
Tape speed and maximum recording time

Tape Speed	Video cassette tape				
	T-160	T-120	T-90	T-60	T-30
SP (Standard Play)	2-2/3 hours	2 hours	1-1/2 hours	1 hour	30 minutes
SLP (Super Long Play)	8 hours	6 hours	4-1/2 hours	3 hours	1-1/2 hours

---

Cassette tape playback

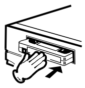
To play a prerecorded tape.



Playback

Preparation:
- Turn ON the TV and select the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light).

1 **Load a prerecorded tape**
(When loading a cassette tape without the erase prevention tab, playback will start automatically).



2 **To start playback**
Press **PLAY.**
Playback will start. "▶" will appear on the screen for about 4 seconds.

To stop playback
Press **STOP** once.
The tape will stop but remain fully loaded and ready to play.
"■" will appear on the screen for about 4 seconds.

Notes:
- This VCR selects the playback tape speed SP, LP or SLP automatically.
- The Cassette tape and DVD disc can be played back simultaneously. If you press **VCR DVD** selector, the tape playback and DVD playback alternate with each other on the screen (via CH3, 4 or video connection).

Rewind or forward the tape

Stop the playback or recording via **STOP** on remote.

To rewind the tape:

Press **REW.**

To forward the tape:

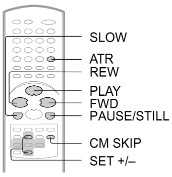
Press **FWD.**

To discontinue the tape-winding, press **STOP**. To switch to playback directly (without **STOP**), press **PLAY.**

■ Forward/Reverse picture search mode

When the tape is being winded, you can switch to picture search mode (see next page). To do this, press **REW** or **FWD** and hold it down. The unit will resume the tape advance or rewinding as soon as the button is released.

Special playback



Picture search

Reverse picture search function
Press **REW** once or twice during playback.

Forward picture search function
Press **FWD** once or twice during playback.
To return to playback, press **PLAY**.

SPEED SEARCH TIMES

TAPE SPEED	PICTURE SEARCH SPEED	
	PRESS ONCE	PRESS TWICE
SP (Standard Play)	3 X	5 X
LP (Long Play)	7 X	9 X
SLP (Super Long Play)	9 X	15 X

Still picture

Press **PAUSE/STILL** during playback.
To resume normal playback, press **PLAY** or **PAUSE/STILL.**

Slow motion

During playback press **SLOW.**
To return to playback, press **PLAY** or **SLOW.**

■ Slow tracking and vertical lock adjustment
If noise bars appear in the picture during slow motion, press the **SET + /–** to reduce the noise bars.
If the still picture jitters excessively, press **SET +/–** to stabilize the still picture.

Frame by frame picture

Press **PAUSE/STILL** during playback.
Press **SLOW** repeatedly: The picture advances frame by frame.
To return to playback, press **PLAY** or **PAUSE/STILL.**

CM skip

Press **CM SKIP** during playback. The DVD/VCR will search forward through approximately 30 seconds of the tape (e.g. unwanted commercial time) for each press of **CM SKIP** (maximum six presses) and then resume normal playback.

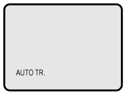
For example : 1 press: 30 seconds of tape
2 press: 60 seconds of tape
3 press: 90 seconds of tape

Adjusting tracking condition

■ Automatic tracking adjustment
Whenever you insert a tape and start playback, the automatic tracking feature continuously analyzes the signal to enable optimum picture quality during playback.

■ Manual tracking adjustment
If automatic tracking cannot eliminate noises well during playback, press **SET +/–** to eliminate the noise. "MANUAL TR." will appear on the screen. Press it briefly for a fine adjustment, or press and hold for a coarse adjustment.

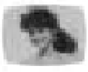
Press **ATR** to reactivate automatic tracking again. "AUTO TR." will appear on the screen.

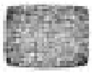


Notes:
- The audio output is muted during SPEED SEARCH, STILL, FRAME ADVANCE and SLOW MOTION.
- During picture search mode there will be noise bars. This is not a defect.
- Playback will commence after approx. 5 minutes to protect the video tape against excessive wear during pause mode.

Video head cleaning

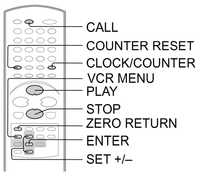
Video head clogging
■ The video heads are the means by which the DVD/VCR reads the picture from the tape during playback. In the unlikely event that the heads become dirty enough to be clogged, no picture will be displayed. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the DVD/VCR checked and cleaned by qualified service personnel.


Good Picture


Snowy Picture

Notes:
- DO NOT ATTEMPT TO CLEAN THE VIDEO HEADS OR SERVICE THE UNIT BY REMOVING THE REAR COVER.
- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head clogging, use only good quality VHS tapes. Discard worn out tapes.

Convenience function

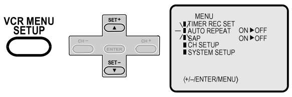

CALL
COUNTER RESET
CLOCK/COUNTER
VCR MENU
PLAY
STOP
ZERO RETURN
ENTER
SET +/–

Repeat playback

The entire video tape will play until its end. The tape will automatically rewind to the beginning and the playback will be repeated.

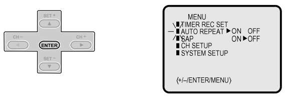
1 **Press VCR MENU.**

Press **SET +** or **–** to select "AUTO REPEAT".


VCR MENU
SETUP
SET+
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

2 **Press ENTER to select "ON" or "OFF".**

If "ON" is selected, the playback will be repeated endlessly.


SET +
CH –
ENTER
CH +
SET –
MENU
TIMER REC SET
AUTO REPEAT ▶ON OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

3 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

If you press **CALL**, "⭘" will appear on the screen 11.

4 **To commence playback, press PLAY.**

The playback will be repeated endlessly.

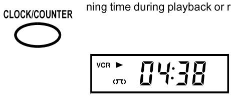
To cancel repeat mode:
Follow the above step **1**, then press **ENTER** to select "OFF" position. Press **VCR MENU** to return to the TV.

Zero return function

This function rewinds the tape to the "00:00:00" counter position automatically.

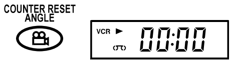
1 **Press CLOCK/COUNTER.**

The counter display shows the tape running time during playback or recording.


CLOCK/COUNTER
VCR ▶
04:38

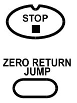
2 **Press COUNTER RESET at the desired tape position.**

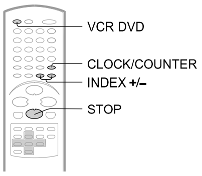
The counter display will be reset to "00:00:00" position (e.g. the beginning of recording).


COUNTER RESET
ANGLE
VCR ▶
00:00

3 **Press STOP when playback or recording is completed.**
Press ZERO RETURN.

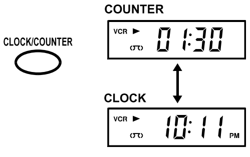
The tape will automatically rewind or fast forward to the "00:00:00" counter position.


STOP ■
ZERO RETURN
JUMP

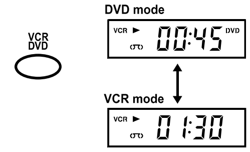

VCR DVD
CLOCK/COUNTER
INDEX +/–
STOP

Clock/counter display

Press **CLOCK/COUNTER**. The clock and tape counter alternate with each other in the display window.


COUNTER
CLOCK/COUNTER
VCR ▶
01:30
CLOCK
VCR ▶
10:11 PM

Press **VCR DVD** selector. The DVD mode and the VCR mode alternate with each other in the display.

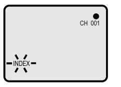

DVD mode
VCR
DVD
VCR ▶
00:45 DVD
VCR mode
VCR ▶
01:30

Notes:
- If you rewind the tape beyond "00:00:00", a minus sign ("–") will be displayed in front of the time.
- When you load a tape, the counter will reset to "00:00:00".
- The counter does not function on nonrecorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections, the counter stops.

Video index search system

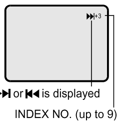
This function enables you to locate the beginning of any recording made on the VCR.

Recording an INDEX mark
The Index Search function automatically records an INDEX mark on the tape whenever a recording is initiated.


●
CH 001
INDEX

Index search
Press **INDEX +** or **–** during stop or play mode.
For Succeeding programs: Press **INDEX +.**
For Preceding programs: Press **INDEX –.**
(As many as 9 index points can be accessed via this method.)
When the **INDEX +** or **–** is pressed, the unit starts searching the INDEX NO. selected and finds the portion, then playback starts automatically.
To stop the Index Search, press **STOP.**

– INDEX
SKIP
INDEX +
SKIP
STOP


⏭+3
⏭ or ⏮ is displayed
INDEX NO. (up to 9)

Notes:
- When you record an INDEX mark at the very beginning of the tape, the mark may not be found.
- During INDEX search, the tape may stop and begin to play at a slightly different location.
- INDEX may not function properly with old or worn out video tapes.
- INDEX marks may not be found if it is extremely close to the point where the search began.
- In recording, if you stop recording temporarily, the INDEX mark is not recorded on the tape.

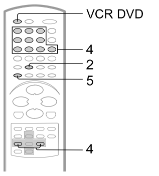
SQPB (S-VHS Quasi Playback)

You can playback video cassette tapes recorded in the S-VHS system.
However, the picture will not have the high resolution of S-VHS system.

Note: You cannot record S-VHS video format with this VCR.

Recording a TV program

Recording and viewing the same TV program.

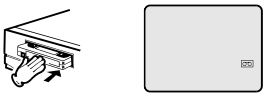

VCR DVD
4
2
5
4

Recording a TV program

Preparation:
- Turn ON the TV and select to the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)

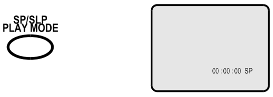
1 **Load a cassette tape with the erase prevention tab intact.**

The DVD/VCR will automatically turn on.



2 **Press SP/SLP to select the desired tape speed SP or SLP.**

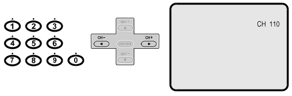
The tape counter and "SP" or "SLP" will appear on the screen for about 4 seconds.


SP/SLP
PLAY MODE
00 : 00 : 00 SP

3 **Select "TV" or "CABLE" to the appropriate position 27.**

TV - VHF/UHF channels
CABLE - Cable TV channels

4 **Press Number buttons or CH +/– to select the channel to be recorded.**


1 2 3
4 5 6
7 8 9 0
SET +
CH–
ENTER
CH+
SET –
CH 110

TV mode direct channel selection:
All channels can be instantly selected by using two buttons. (for example, to select channel 2, press "0", then "2". If you press only "2", channel selection will be delayed for two seconds.) For channels 10 and above, press the 2 digits in order.

CABLE mode direct channel selection:

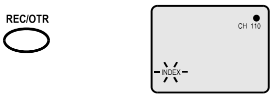
1-9	Press **0** twice and then **1-9** as required. Example: To select "2", Press **002.**
10-12	Press **0** first and then the remaining 2 digits in order from left to right. Example: Press **012** for "12".
13-99	Press 2 digits in order. Example: Press **22** for "22".
100-125	Press the 3 digits in order. Example: Press **110** for "110".

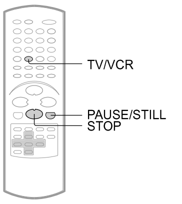
VHF/UHF/CABLE TV CHANNELS

TV	CABLE TV
VHF 2-13	VHF 2-13
UHF 14-69	STD/HRC/IRC 14-36 (A) (W) 37-59 (AA) (WW) 60-85 (AAA) (ZZZ) 86-94 (86) (94) 95-99 (A-5) (A-1) 100-125 (100)(125) 01 (5A)

5 **Press REC/OTR.**

"●" will appear on the screen for about 4 seconds and "REC" will appear on the display window.

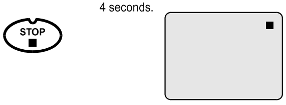

REC/OTR
●
CH 110
INDEX


TV/VCR
PAUSE/STILL
STOP

To stop recording

Press STOP to stop recording.

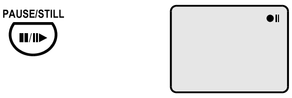
"■" will appear on screen for about 4 seconds.



To stop recording temporarily

Press PAUSE/STILL to avoid recording unwanted material. Press again to continue the recording.

"●II" will appear on screen for about 4 seconds.


PAUSE/STILL
II/II▶
●II

Notes:
- The pause function will be released after 5 minutes to prevent damage to the tape or the VCR. The VCR will change to the STOP mode.
- You can select a recording channel in the recording pause mode.

Recording one program while watching another

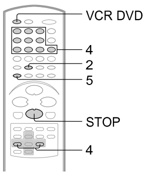
While the VCR is recording, select your desired channel on the TV.
When a TV is connected with an antenna cable only, press TV/VCR to select the TV position.
The "VCR" display will go off and recording will continue. Select the TV channel you want to watch by using the TV channel selector.

Note:
Some Cable TV hookups do not permit viewing one channel while recording another. See pages 16 and 17.

■ **Auto Rewind feature**
This VCR will automatically rewind the tape when the tape has ended (except during OTR and timer recording). It will also eject the tape.

One-touch Timer Recording (OTR)

The One-touch Timer Recording feature provides a simple and convenient way to make a timed recording.


VCR DVD
4
2
5
STOP
4

One-touch Timer Recording (OTR)

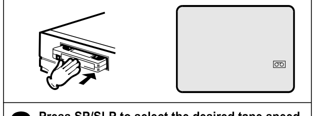
Preparation:

- Turn ON the TV and select to the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)

Example: One-touch Timer Recording for 30 minutes.

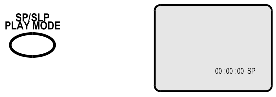
1 Load a cassette tape with the erase prevention tab intact.

The VCR will automatically turn on.



2 Press SP/SLP to select the desired tape speed SP or SLP.

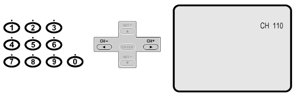
The tape counter and “SP” or “SLP” will appear on the screen for about 4 seconds.


SP/SLP
PLAY MODE
00 : 00 : 00 SP

3 Set “TV” or “CABLE” option to the appropriate position 27⟩.

TV	- VHF/UHF channels
CABLE	- Cable TV channels

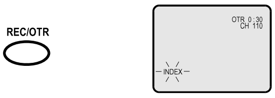
4 Press Number button or CH +/– to select the channel to be recorded.


1 2 3
4 5 6
7 8 9 0
SET +
CH –
CH +
ENTER
SET –
CH 110

5 Press REC/OTR. Recording begins. Press the button again to stop recording after 30 minutes. Each additional press of REC/OTR will increase recording time as shown in the chart below, up to a maximum of 6 hours.

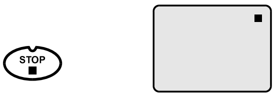
The OTR and recording time will appear on the screen for about 4 seconds. And, “●” will appear on the display.

Press	Recording time	Press	Recording time
once	NORMAL REC	6 times	3:00
twice	0:30	7 times	4:00
3 times	1:00	8 times	5:00
4 times	1:30	9 times	6:00
5 times	2:00	10 times	NORMAL REC


REC/OTR
OTR 0 : 30
CH 110
INDEX

To cancel OTR

Press **STOP** or turn off the power.

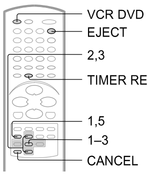


“■” will appear on screen for about 4 seconds.

Note:
If you wish to watch the DVD playback during OTR or standard recording, press **VCR DVD** selector to change to DVD mode and perform the DVD playback 43⟩.

Timer recording

Timer recording can be programmed on-screen with the remote control. The built-in timer allows automatic unattended recording of up to 8 programs within 1 month.


VCR DVD
EJECT
2,3
TIMER REC
1,5
1–3
CANCEL

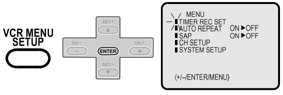
Timer recording

Preparation:

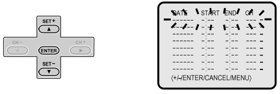
- Press **VCR DVD** selector to select the VCR mode.
- Load a cassette tape with the erase prevention tab intact.
- Check the time and date are correct 24⟩.

Example: Program a timer recording for the 26th day, channel 125 (Cable TV), 11:00 - 11:30 PM on timer program number 1 (Tape speed: SLP).

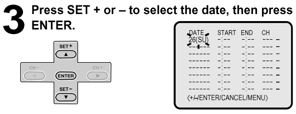
1 Press VCR MENU. Select “TIMER REC SET”, then press ENTER.


VCR MENU
SETUP
ENTER
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

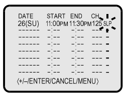
2 Press SET + or – to select one of the program line, then press ENTER.


SET +
ENTER
SET –
DATE START END CH
(+/–/ENTER/CANCEL/MENU)

3 Press SET + or – to select the date, then press ENTER.


SET +
ENTER
SET –
DATE START END CH
26(SU)
(+/–/ENTER/CANCEL/MENU)

4 Set the start time, end time, channel and tape speed as in step 3.

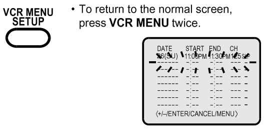

DATE START END CH
26(SU) 11:00PM 11:30PM 125 SLP
(+/–/ENTER/CANCEL/MENU)

Notes:

- Press **CANCEL** to move cursor backward for correction.
- To record from external source set the channel to “L1” or “L2”.

5 To enter other programs, repeat step 2 through 4.

- To return to the normal screen, press **VCR MENU** twice.


VCR MENU
SETUP
DATE START END CH
26(SU) 11:00PM 11:30PM 125 SLP
(+/–/ENTER/CANCEL/MENU)

6 Press TIMER REC. The timer symbol (⏲) will appear on the display and the VCR stands by for recording.

At the same time, VCR mode will change to DVD mode automatically. You can use DVD even if the VCR is in the timer recording mode. If you do not use the DVD, turn the power off.

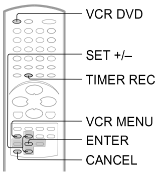
Notes:

- The timer recording will start at 5 seconds before the time you predetermined.
- If the timer symbol(⏲) does not appear on the display in spite of the pressing of **TIMER REC**, the cassette may not have been loaded. 29⟩
- If the cassette is ejected in spite of the pressing of **TIMER REC**, the erase prevention tab of the cassette may have been removed. 29⟩

Notes:

- If the timer symbol (⏲) blinks when the timer recording ended, the TV program has not been completely recorded because of an insufficient tape length. Press **TIMER REC** to cancel the timer program or press **EJECT** to remove the cassette tape.
- During timer recording standby mode, the VCR mode cannot be operated. To use the VCR, press **TIMER REC** at first, then press **VCR DVD** selector to change to VCR mode. After you use the VCR, press **TIMER REC** again to put the VCR into timer recording standby mode.
- If you press **TIMER REC** during timer recording, the recording operation will be interrupted. If you press **TIMER REC** again within the programmed time, the recording operation will start again.
- After a power failure or disconnection of the power plug, all programmed recording settings and time display will be lost upon resumption of power. In this case, reset the clock 24⟩ and reprogram any timer recording.

Timer recording (continued)

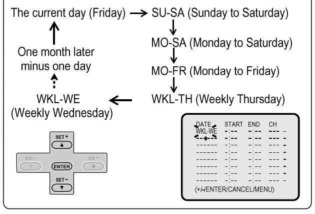

VCR DVD
SET +/–
TIMER REC
VCR MENU
ENTER
CANCEL

To set daily/weekly timer

Weekly (e.g. WKL-TU: each Tuesday) or daily (e.g. MO-SA: Monday to Saturday) Timer recording

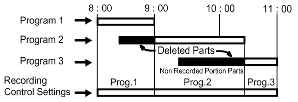
Follow the procedure of timer recording on the previous page. At step **3** press **SET +** or **–** repeatedly until the desired setting appears. Then press **ENTER**.

When you press **SET –** repeatedly, the DATE indicator will change as follows, in this case the day is Friday.


The current day (Friday)
SU-SA (Sunday to Saturday)
MO-SA (Monday to Saturday)
MO-FR (Monday to Friday)
WKL-TH (Weekly Thursday)
WKL-WE (Weekly Wednesday)
One month later minus one day
SET +
ENTER
SET –
DATE START END CH
WKL-WE
(+/–/ENTER/CANCEL/MENU)

If the programs overlap another

Do not overlap timer programs as portions of the conflicting programs will be lost. The first recording time has priority over the next recording time as shown in the diagram below.


8 : 00
9 : 00
10 : 00
11 : 00
Program 1
Program 2
Program 3
Deleted Parts
Non Recorded Portion Parts
Recording Control Settings
Prog.1
Prog.2
Prog.3

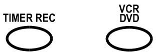
Notes:

- The daily/weekly recording can be made continuously until the recording is canceled or the tape reaches the end.
- During timer recording the automatic rewinding mechanism does not function.

To confirm or cancel a program

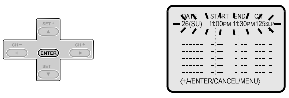
1 If the Timer has been activated, press TIMER REC to deactivate the Timer.

The timer symbol (⏲) will disappear. Then press **VCR DVD** selector to change to VCR mode.


TIMER REC
VCR
DVD

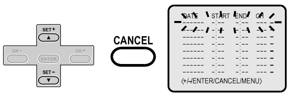
2 To confirm Timer program:

At step **1** on the previous page select “TIMER REC SET” and press **ENTER**.
The timer program list will appear on the screen.


ENTER
DATE START END CH
26(SU) 11:00PM 11:30PM 125 SLP
(+/–/ENTER/CANCEL/MENU)

3 To cancel Timer program:

Press **SET +** or **–** to select the unwanted program, then press **CANCEL** to cancel the program.


SET +
SET –
CANCEL
DATE START END CH
(+/–/ENTER/CANCEL/MENU)

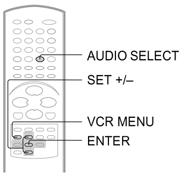
4 Press VCR MENU repeatedly until the menu screen is cleared.

VCR MENU
SETUP

Notes:

- If there are other timer record programs remaining, **TIMER REC** must be pressed to reactivate the timer, otherwise the remaining timer record programs will be ignored.
- You cannot confirm the Timer program during timer recording operation.
- You can correct or cancel a programmed setting in program confirm mode.

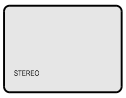
Stereo recording and playback / Second Audio Program (SAP)


AUDIO SELECT
SET +/–
VCR MENU
ENTER

Stereo recording and playback

The VHS Hi-Fi audio system permits high fidelity recording of MTS STEREO TV broadcasts.

When a MTS STEREO broadcast is received, “STEREO” will appear on the screen for about 4 seconds and the program can be viewed or recorded in stereo. The Hi-Fi stereo recording procedure is the same as for normal recordings.



Note:
When using a Cable TV system, stereo TV programs may be transmitted over a mono cable channel. In this case “STEREO” will not appear and the sound will be in mono.

AUDIO SELECT
AUDIO

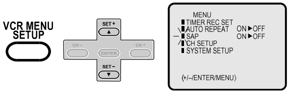
Output selection
When viewing an MTS stereo TV program, or playing a prerecorded VHS Hi-Fi stereo videotape, press **AUDIO SELECT** to select how the audio will be heard through the speakers. Normally set to the Hi-Fi stereo position, this button can be set to the MONO position if the stereo broadcast or videotape audio is of poor quality. The “R” and “L” positions allow the audio from the Right or Left Hi-Fi channel to be heard over both TV speakers. This button has no effect when viewing a MONO videotape or TV program. Each time when you press the button, OUTPUT SELECTION display appears on the screen for several seconds. Refer to the chart below.

OUTPUT SELECTION	SOUND HEARD ON BOTH SPEAKERS
STEREO L CH R CH MONO	STEREO LEFT CHANNEL AUDIO RIGHT CHANNEL AUDIO MONO

Second Audio Program (SAP)

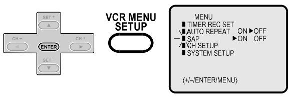
Your DVD/VCR is fitted with a SAP broadcast system which enables you to switch to a second audio program when viewing a selected channel.
This function applies only when the program is broadcast in multi-languages through the SAP broadcast system.

1 Press VCR MENU. Then press SET + or – to select “SAP”.


VCR MENU
SETUP
SET +
ENTER
SET –
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

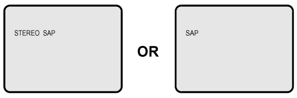
2 Press ENTER to select “ON”.

Then press **VCR MENU** until the menu screen is cleared.


ENTER
VCR MENU
SETUP
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ▶ON OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

Listening to SAP

When the VCR is turned on or a channel selection is made, make certain the letters “SAP” appears on the screen for about 4 seconds. This means that the “Second Audio Program” broadcasting is available.

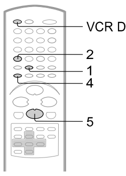

STEREO SAP
OR
SAP

Notes:

- When playing back a tape that is not recorded in Hi-Fi stereo mode, the audio will automatically be monaural.
- When listening to a VHS Hi-Fi video tape or MTS broadcast through the VHF/UHF jack (Audio/Video cable not connected), the sound will be monaural.

Duplicating a video tape

If you connect the DVD/VCR to another VCR or Camcorder, you can duplicate a previously recorded tape. Make all connections before turning on the power.



Duplicating a video tape

Preparation:
- Turn ON the TV and select the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)
- Load a cassette tape with the erase prevention tab intact.
- Load a previously recorded tape into the playback VCR or Camcorder.

1 Press SP/SLP to select the desired tape speed SP or SLP.

SP/SLP PLAY MODE

It is recommended that you set the tape speed to the SP mode on the recording VCR for best results.

2 Press INPUT SELECT once or twice to select AUDIO/VIDEO input position.

"L1" or "L2" will appear in the display.

INPUT SELECT PROGRESSIVE

L1: on the rear panel
L2: on the front panel

3 Press PLAY on the playback VCR or Camcorder.

4 Press REC/OTR on the recording VCR.

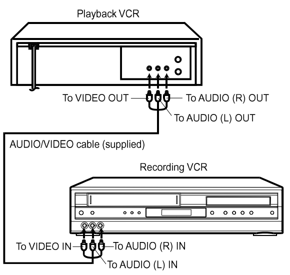
REC/OTR

The duplicating process begins.

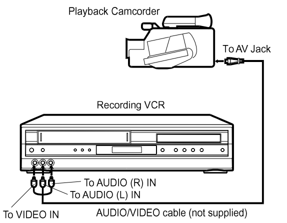
5 Press STOP after duplicating a video tape.

STOP ■

Connection with second VCR



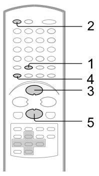
Connection with Camcorder



For duplicating a previously recorded tape from a camcorder, follow the camcorder manufacturer's instructions. A typical camcorder dubbing hookup is shown above.

Recording a DVD/CD disc

You can record disc material in DVD, Audio CD, etc. onto a Video tape with this DVD/VCR.

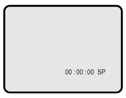


Duplicating a DVD or CD disc

Preparation:
- Turn ON the TV and select the corresponding video input.
- Press **VCR DVD** selector to select the VCR mode. (The VCR indicator will light.)
- Load a cassette tape with the erase prevention tab intact.
- Load a DVD/CD disc.

1 Press SP/SLP to select the desired tape speed SP or SLP.

SP/SLP PLAY MODE



2 Press VCR DVD selector to select the DVD mode.

The DVD indicator will light.

VCR DVD

DVD

3 Press PLAY to start playback.

PLAY ►

4 Press REC/OTR to start recording.

REC/OTR

The DVD/VCR will change to the VCR mode automatically and the playback picture or sound will be duplicated on the video cassette tape.

5 Press STOP if you finish recording.

STOP ■

If you wish to stop a DVD/CD disc, press **VCR DVD** selector to change the DVD mode, then press **STOP.**

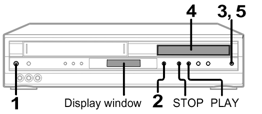
Notes:
- You may not be able to record the beginning of the disc. Begin VCR recording once program playback commences on the DVD.
- When the scanning mode is set to the progressive mode, you cannot duplicate a disc material onto a video tape. When **REC/OTR** is pressed, the PROGRESSIVE indicator "P" on the display window will flash and "Please Set P Off" will appear on the screen.
- You cannot record discs encoded with copy guard function. The following icon and text will show up on the TV screen.

DISC IS COPY PROTECTED

Playing a disc

This section shows you the basics on how to play a disc.

CAUTION
Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.



DVD VCD CD Basic playback

Preparations:
- When you want to view a disc, turn on the TV and select the corresponding video input connected to the DVD/VCR. This may include S-video or component video inputs which are exclusive to DVD playback.
- When you want to enjoy the sound of discs from the audio system, turn on the audio system and select the input connected to the DVD/VCR.

1 Press ON/STANDBY (I /⏻).

ON/STANDBY I/⏻

The DVD/VCR turns on.

2 Press VCR/DVD SELECT to select the DVD mode.

VCR/DVD SELECT

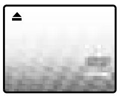
The DVD indicator will light.

DVD

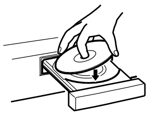
3 Press OPEN/CLOSE.

OPEN/CLOSE ⏏

The disc tray opens.



4 Place the disc on the disc tray.



With the playback side down

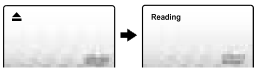
- There are two different disc sizes. Place the disc in the correct guide on the disc tray. If the disc is out of the guide, it may damage the disc and cause the DVD/VCR to malfunction.
- Do not place a disc which is unplayable in this DVD/VCR.

5 Press OPEN/CLOSE or PLAY on the unit.

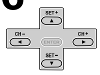
OPEN/CLOSE ⏏ OR PLAY ►

The disc tray closes automatically. On the TV-screen, "⏏" changes to "Reading" and then playback commences.

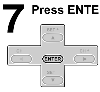
- A menu screen will appear on the TV screen, if the disc has a menu feature.



6 Press ▲/▼ or ◄ / ►to select title.



7 Press ENTER.



- Title is selected and play commences.

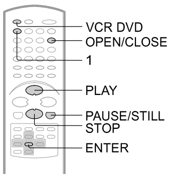
8 Press STOP to end playback.

STOP ■

- The unit records the stopped point, depending on the disc. "▶▎" appears on the screen. Press **PLAY** to resume playback (from the scene point).
- If you press **STOP** again or unload the disc ("■" appears on the screen.), the unit will clear the stopped point.

■ **To start playback in the stop mode**
Press **PLAY.**

PLAY ►



■ **To obtain a higher quality picture**
Occasionally, some picture noise not usually visible during a normal broadcast may appear on the TV screen while playing a DVD video disc because the high resolution pictures on these discs include a lot of information. While the amount of noise depends on the TV you use with this DVD/VCR, you should generally reduce the sharpness adjustment on your TV when viewing DVD video discs.

■ **About DVD VCD CD**
The DVD VCD CD icons on the heading bar show the playable discs for the function described under that heading.
DVD : You can use this function with DVD video discs.
VCD : You can use this function with Video CDs.
CD : You can use this function with Audio CDs and CD-R/RW CDs.

■ **To pause playback (still mode)**
Press **PAUSE/STILL** during playback.

PAUSE/STILL ▮▮/▮►

To resume normal playback, press the PLAY button.
- The sound is muted during still mode.

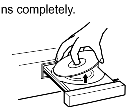
■ **To stop playback**
Press **STOP.**

STOP ■

■ **To remove the disc**
Press **OPEN/CLOSE.**

OPEN/CLOSE ⏏

Remove the disc after the disc tray opens completely.



Be sure to press the OPEN/CLOSE button to close the disc tray after you remove the disc.

■ **Playing a Disc while the VCR section is recording or standing by for timer recording**
1) Start to record.
   Follow steps 1~5 on page 34.
   - If the DVD/VCR is standing by for recording, turn on the DVD/VCR.
2) Press VCR DVD selector to select DVD mode. The DVD indicator will light.
3) Play a disc.
   Follow steps 3 ~ 5 on page 42.
   - Press PLAY if the DVD/VCR does not start to play a disc automatically.
4) Stop to play.
   Press STOP to stop play back a disc.

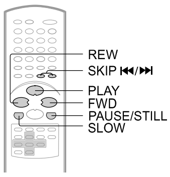
■ **Screen saver function**
The screen saver operates when you leave the unit in DVD stop mode for about five minutes.
The screen will repeatedly get dark gradually and back to normal.

■ **To turn off the PBC**
Press number button 1 in the stop mode, then press ENTER.

Notes:
- If a non-compatible disc is loaded, "Incorrect Disc", "Region Code Error" or "Parental Error" will appear on the TV screen according to the type of loaded disc. In this case, check your disc again (See pages 8 and 61).
- Some discs may take a minute or so to start playback.
- When you set a single-faced disc label downwards (ie. the wrong way up) and press the OPEN/CLOSE button or the PLAY button on the unit, "Reading" will appear on the display for 30 seconds and then "Incorrect Disc" will continue to be displayed.
- Some discs may not work the resuming facility.
- Resuming cannot function when you play a PBC-featured Video CD while the PBC is on. To turn off the PBC, see above.
- Some playback operations of DVDs may be intentionally fixed by software producers. Since this unit plays DVDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs.
- Do not move the DVD/VCR during playback. Doing so may damage the disc.
- Use the OPEN/CLOSE button to open and close the disc tray. Do not push the disc tray while it is moving. Doing so may cause the DVD/VCR to malfunction.
- Do not push up on the disc tray or put any objects other than discs on the disc tray. Doing so may cause the DVD/VCR to malfunction.
- In many instances, a menu screen will appear after playback of a movie is completed. Prolonged display of an on-screen menu may damage your television set, permanently etching that image onto its screen. To avoid this, be sure to press the ON/STANDBY (I /⏻) button on your remote control once the movie is completed.
- There may be a slight delay between you pressing the button and the function activating.

Playing a disc (continued)

You can play discs at various speeds.



DVD VCD CD Playing in fast reverse or fast forward directions

Press REW or FWD during playback.

REW: Fast reverse playback
FWD: Fast forward playback

Each time you press the REW or FWD button, the playback speed changes.

■ **To resume normal playback**

Press **PLAY.**

Notes:
- The DVD/VCR mutes sound and subtitles during reverse and forward scan of DVD video discs. However, the DVD/VCR plays sound during fast forward or fast reverse play of audio CDs.
- The playback speed may differ depending on the disc.

DVD VCD Playing frame by frame

Press PAUSE/STILL during still playback.

PAUSE/STILL

Each time you press the PAUSE/STILL button, the picture advances one frame.

■ **To resume normal playback**

Press **PLAY.**

Note:
The sound is muted during frame by frame playback.

DVD VCD Playing in slow-motion

Press SLOW during playback.

SLOW

Each time you press the SLOW button, the slow-motion speed changes.

■ **To resume normal playback**

Press **PLAY.**

Note:
The sound is muted during slow-motion playback.

DVD VCD CD Locating a chapter or track

Press SKIP ⏮ or ⏭ repeatedly to display the chapter or track number you want.

Playback starts from the selected chapter or track.

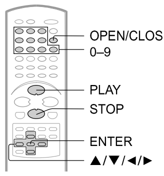
INDEX+ SKIP ⏭ To locate succeeding chapters or tracks.

–INDEX SKIP ⏮ Playback starts from the beginning of the current chapter or track. When you press twice in quick successions, playback starts from the beginning of the preceding chapter or track.

Notes:
- A “Prohibition” symbol ✋ may appear at the upper left of the screen. This symbol means either the feature you tried is not available on the disc, or the DVD/VCR cannot access the feature at this time. This does not indicate a problem with the DVD/VCR.
- The unit is capable of holding a still video image or On screen display image on your television screen indefinitely. If you leave the still video image or On screen display image displayed on your TV for an extended period of time, you risk permanent damage to your television screen. Projection televisions are very susceptible.

MP3/WMA/JPEG playback

This player can play back the MP3/WMA/JPEG-data which has been recorded on CD-R or CD-RW. To produce the MP3/WMA/JPEG-data, you need a Windows-PC with CD-ROM drive and a MP3/WMA/JPEG-encoding Software (not supplied).
The Apple-HFS-System cannot be played.

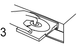


CD MP3/WMA playback

1 **Press OPEN/CLOSE.**

OPEN/CLOSE

The disc tray will open. Place a disc on which MP3 or WMA files have been recorded onto the tray.

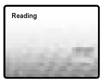


2 **Press OPEN/CLOSE or PLAY.**

OPEN/CLOSE

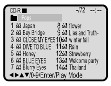
PLAY

The disc tray closes automatically. On the TV-screen,“Reading” will appear. Reading will take as much time as the number of file.



Reading

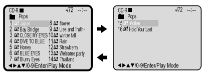
3 **A file menu screen will appear on the TV screen.**
Press ◀ or ▶ to select folder.



```
CD-R ■                    -/72  --:--
   Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 winter fall
4 DIVE TO BLUE  11 Rain
5 Honey         12 Strawberry
6 BLUE EYES     13 Welcome party
7 Blurry Eyes   14 Thailand
◀▶▲▼/0-9/Enter/Play Mode
```

4 **Press ▲/▼ or ◀/▶ or Number keys to select the desired file, then press ENTER.**
The file is selected and play commences.

- In case the folder includes more than 15 tracks, press ◀ or ▶ to display next file list.



```
CD-R ■                    -/72  --:--
   Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 winter fall
4 DIVE TO BLUE  11 Rain
5 Honey         12 Strawberry
6 BLUE EYES     13 Welcome party
7 Blurry Eyes   14 Thailand
◀▶▲▼/0-9/Enter/Play Mode
```

```
CD-R ■                    -/72  --:--
   Pops
15 Mother
16 Hold Your Last
◀▶▲▼/0-9/Enter/Play Mode
```

- When **PLAY** has been pressed after displaying the file menu, or when the disc tray has been closed after pressing **PLAY** in step 2, playback begins automatically starting from the first file. In this case, if the first file is an MP3/WMA file, only MP3/WMA files are played back in order. If the first file is a JPEG file, the first JPEG file is played back.

5 **Press STOP to end playback.**

PLAY

STOP

- The unit records the stopped point. “⚑” appears on the screen. Press **PLAY** to resume playback (from the scene point).
- If you press **STOP** again or unload the disc, the unit will clear the stopped point.

MP3/WMA/JPEG CD Information

Limitations on MP3/WMA/JPEG CD playback
- MP3/WMA/JPEG CD is the disc that is standardized by ISO9660, its file name must include 3-digits extension letters, “mp3”, ”wma”, “jpg”.
- The directory and file names of the MP3/WMA/JPEG CD must be correspond to the ISO standardized files.
- This unit can read 200 files per disc. If a disc has more than 200 files, it reads up to 200 files, the remaining files will be omitted.
- The unit is able to recognize up to a maximum of 50 directories per disc.
- MP3/WMA CDs cannot be used for playback for the purpose of recording.
- If the CD has both audio tracks and MP3/WMA/JPEG files, only audio tracks are played.
- It may take more than one minute for this unit to read MP3/WMA/JPEG files depending on its structure.
- Music recorded by “Joliet Recording Specification” can be played back, the file name is displayed (within 16 letters) on the screen. Long file names will be condensed.
- The music files recorded by “Hierarchical File System” (HFS) cannot be played.
- The unit can play back baseline and progressive JPEG files.

Limitations on display
- The maximum number for display is 16 letters. Available letters for display are the following: capital or small alphabets of A through Z, numbers of 0 through 9, and _ (under score).
- Other letters than those above are replaced in hyphen.

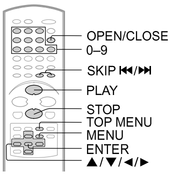
Notes on MP3/WMA/JPEG files
To play back MP3/WMA/JPEG CD in the recorded order,
1. Use MP3/WMA/JPEG software that records data alphabetically or numerically.
2. Name each file including two-digit or three-digit number (e.g. “01” “02” or “001” “002”).
3. Refrain from making too many sub-folders.

WMA disc compatibility with this player is limited as follows:
1) Sampling Frequency: within 32 -- 48 kHz
2) Bit Rate: within 48 -- 192kbps.
Mono WMA files and WMA files (under 48kbps) cannot be played back on this player.

CAUTION:
- Some MP3/WMA/JPEG CDs cannot be played back depending on the recording conditions.
- The CD-R/RW that has no music data or non-MP3/WMA/JPEG files cannot be played back.

MP3/WMA/JPEG playback (continued)

You can select your desired JPEG file on the file menu and picture menu. The selected JPEG file is automatically adjusted to the TV screen. (When the aspect ratio of the JPEG file is different to your TV screen, the black bar will appear at the top and bottom, or the both sides of the TV screen.

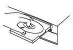


CD JPEG CD playback

1 **Press OPEN/CLOSE.**

OPEN/CLOSE

The disc tray will open. Place a disc on which JPEG files have been recorded onto the tray.

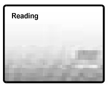


2 **Press OPEN/CLOSE or PLAY.**

OPEN/CLOSE

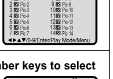
PLAY

The disc tray closes automatically. On the TV-screen, “Reading” will appear. Reading will take as much time as the number of file.



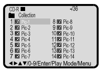
Reading

3 **A file menu screen will appear on the TV screen.**
Press ◀ or ▶ to select folder.



```
CD-R ■              -/36
   Collection
1 Pic-1     8 Pic-8
2 Pic-2     9 Pic-9
3 Pic-3    10 Pic-10
4 Pic-4    11 Pic-11
5 Pic-5    12 Pic-12
6 Pic-6    13 Pic-13
7 Pic-7    14 Pic-14
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

4 **Press ▲/▼ or ◀/▶ or Number keys to select the desired file.**

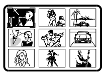


```
CD-R ■              -/36
   Collection
1 Pic-1     8 Pic-8
2 Pic-2     9 Pic-9
3 Pic-3    10 Pic-10
4 Pic-4    11 Pic-11
5 Pic-5    12 Pic-12
6 Pic-6    13 Pic-13
7 Pic-7    14 Pic-14
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

To display a picture menu, press MENU.
(To return to a file menu, press TOP MENU.)
Press ▲/▼ or ◀/▶ to select the desired file.

MENU

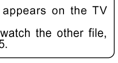
TOP MENU



- To display next list, press **SKIP ⏭** or **⏮**.
- When **PLAY** has been pressed after displaying the file menu, or when the disc tray has been closed after pressing **PLAY** in step 2, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back. If the first file is an MP3/WMA file, only MP3/WMA files are played back in order.

5 **Press ENTER.**

The selected picture appears on the TV screen.



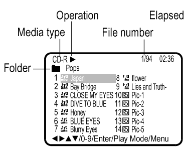
6 **Press STOP to end playback.**

STOP

The file menu appears on the TV screen.
If you want to watch the other file, repeat steps 4~5.

Notes:
- The picture menu is displayed when the FUJICOLOR CD or the Kodak Picture CD are played. To display the file menu press **TOP MENU.**
- During MP3/WMA/JPEG-Playback, you can not use SEARCH, A-B Repeat functions.
- You can use Repeat (Track or All), Random functions and Program playback for MP3/WMA/JPEG CD Playback. (See pages 52 and 53.)
- In the case of a CD containing a mixture of MP3, WMA and JPEG files, the files are played back by selecting them from the file menu.

File menu information



```
CD-R ▶              1/94   02:36
   Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 Pic-1
4 DIVE TO BLUE  11 Pic-2
5 Honey         12 Pic-3
6 BLUE EYES     13 Pic-4
7 Blurry Eyes   14 Pic-5
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

♫ MP3 : Indicates MP3 file

♫ WMA : Indicates WMA file

▣ : Indicates JPEG file

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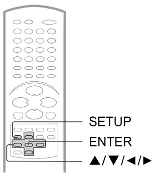
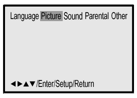


CD Setting the JPEG Interval

You can continuously play back all JPEG files automatically.
After the setting below, start playing the disc on which JPEG files have been recorded.

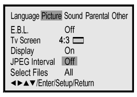
1 **Press SETUP in the stop mode. Press ◀ or ▶ to select “Picture”, then press ENTER.**

VCR MENU SETUP



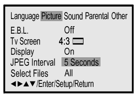
```
Language Picture Sound Parental Other



◀▶▲▼/Enter/Setup/Return
```

2 **Press ▲ or ▼ to select “JPEG Interval”.**



```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3 ▭
Display         On
JPEG Interval   Off
Select Files    All
◀▶▲▼/Enter/Setup/Return
```

3 **Press ENTER or ◀/▶ to select your desired time.**



```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3 ▭
Display         On
JPEG Interval   5 Seconds
Select Files    All
◀▶▲▼/Enter/Setup/Return
```

Off:
Plays back one file at a time.

5 Seconds:
Plays back images in the form of a slide show at 5 second intervals.

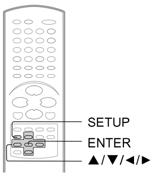
10 Seconds:
Plays back images in the form of a slide show at 10 second intervals.

15 Seconds:
Plays back images in the form of a slide show in 15 second intervals.

4 **To make SETUP screen disappear, press SETUP.**

VCR MENU SETUP

MP3/WMA/JPEG playback (continued)

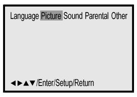


CD Setting the Select Files

When playing back a CD containing a mixture of MP3, WMA and JPEG files, only MP3/WMA or JPEG files can be displayed on the file menu.

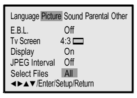
1 **Press SETUP in the stop mode.**
Press ◀ or ▶ to select "Picture", then press ENTER.

VCR MENU
SETUP



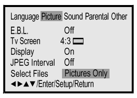
```
Language Picture Sound Parental Other


◀▶▲▼/Enter/Setup/Return
```

2 **Press ▲ or ▼ to select "Select Files".**



```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3
Display         On
JPEG Interval   Off
Select Files    All
◀▶▲▼/Enter/Setup/Return
```

3 **Press ENTER or ◀ / ▶ to select your desired file type.**

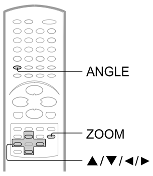


```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3
Display         On
JPEG Interval   Off
Select Files    Pictures Only
◀▶▲▼/Enter/Setup/Return
```

All:
Displays all files.
Music Only:
Displays only MP3/WMA files.
Pictures Only:
Displays only JPEG files.

4 **To make SETUP screen disappear, press SETUP.**

VCR MENU
SETUP



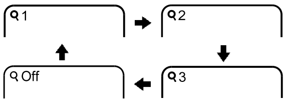
CD Zooming (JPEG CD)

This unit will allow you to zoom in on the JPEG image.

1 **Press ZOOM during playback.**

CM SKIP
ZOOM

Enlarged JPEG images are displayed. You can make the images even larger by repeatedly pressing **ZOOM.**



2 **Press ▲ / ▼/ ◀ / ▶ to view a different part of the frame.**

You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 **In the zoom mode press ZOOM repeatedly to return to a 1:1 view (🔍 Off).**

CM SKIP
ZOOM

CD Changing angles (JPEG CD)

You can display JPEG images rotating at 90 degree intervals.

1 **Press ANGLE during playback.**
Images are rotated 90 degrees to the right.

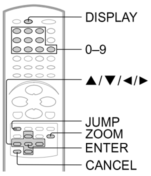
COUNTER RESET
ANGLE

2 **Press ANGLE repeatedly until the desired angle is selected.**
Pressing ANGLE four times returns the image to its original angle.

COUNTER RESET
ANGLE

- Images are displayed at the same angle until the disc is removed.

Zooming/Locating desired scene



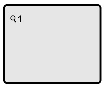
DVD VCD Zooming

This unit will allow you to zoom in on the frame image. You can then make selections by switching the position of the frame.

1 **Press ZOOM during playback.**

CM SKIP
ZOOM

The centre part of the image will be zoomed in.
Each press of **ZOOM** will change the ZOOM 🔍1 (x 1.3), 🔍2 (x 1.5) and 🔍3 (x 2.0).



2 **Press ▲ / ▼/ ◀ / ▶ to view a different part of the frame.**

You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 **In the zoom mode press ZOOM repeatedly to return to a 1:1 view (🔍 Off).**

CM SKIP
ZOOM

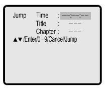
Notes:
- You can select the Pause, Slow or Search playback in the zoom mode.
- Some discs may not respond to zoom feature.

DVD VCD CD Locating desired scene

Use the title, chapter and time recorded on the disc to locate the desired point to play back.
To check the title, chapter and time, press **DISPLAY.**

1 **Press JUMP during playback or stop mode.**

ZERO RETURN
JUMP



```
Jump   Time    : --:--:--
       Title   :   ---
       Chapter :   ---
▲▼/Enter/0–9/Cancel/Jump
```

2 **Press ▲ or ▼ to select the "Time", "Title" or "Chapter".**

3 **Press Numbered buttons (0–9) to change the number.**

- If you input a wrong number, press **CANCEL.**
- Refer to the package supplied with the disc to check the numbers.

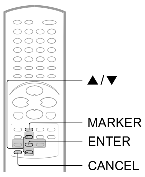
4 **Press ENTER. Playback starts.**

- When you change the title, playback starts from Chapter 1 of the selected title.
- Some discs may not work in the above operation.

Note:
In case of the Video-CD playback with PBC, the JUMP does not work. To turn off PBC, see page 43.

Marking desired scenes

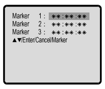
The unit stores the points that you want to watch again up to 3 points.
You can resume playback from each scene.



DVD VCD Marking the scenes

1 **Press MARKER during playback.**

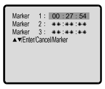
MARKER



```
Marker   1 : **:**:**
Marker   2 : **:**:**
Marker   3 : **:**:**
▲▼/Enter/Cancel/Marker
```

2 **Select the blank Marker using ▲ or ▼.**
Then press ENTER at the desired scene.

- Repeat this procedure to set the other 2 scenes.



```
Marker   1 : 00 : 27 : 54
Marker   2 : **:**:**
Marker   3 : **:**:**
▲▼/Enter/Cancel/Marker
```

3 **Press MARKER to remove this display.**

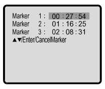
MARKER

Notes:
- Some discs may not work with the marking operation.
- The marking is canceled when you open the disc tray or turn the power off.
- Some subtitles recorded around the marker may fail to appear.

DVD VCD Returning to the scenes

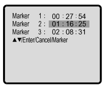
1 **Press MARKER during playback or stop mode.**

MARKER



```
Marker   1 : 00 : 27 : 54
Marker   2 : 01 : 16 : 25
Marker   3 : 02 : 08 : 31
▲▼/Enter/CancelMarker
```

2 **Press ▲ or ▼ to select the Marker 1-3.**



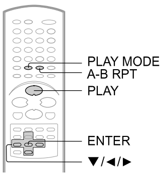
```
Marker   1 : 00 : 27 : 54
Marker   2 : 01 : 16 : 25
Marker   3 : 02 : 08 : 31
▲▼/Enter/Cancel/Marker
```

3 **Press ENTER.**

Playback starts from the marked scene.

■ **To cancel the Marker**
Follow the above steps 1~2, then press **CANCEL.**

Repeat playback/A-B Repeat playback

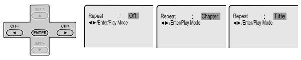


DVD VCD CD Repeat playback of Title, Chapter and Track

1 Press PLAY MODE during playback or stop mode.

SP/SLP PLAY MODE

2 DVD
Press ◄ / ► or ENTER once or twice to select "Chapter" or "Title".

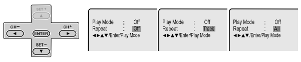


Repeat : Off
◄►/Enter/Play Mode

Repeat : Chapter
◄►/Enter/Play Mode

Repeat : Title
◄►/Enter/Play Mode

CD/VCD
Press ▼ to select "Repeat".
Press ◄ / ► or ENTER once or twice to select "Track" or "All".



Play Mode : Off
Repeat : Off
◄►▲▼/Enter/Play Mode

Play Mode : Off
Repeat : Track
◄►▲▼/Enter/Play Mode

Play Mode : Off
Repeat : All
◄►▲▼/Enter/Play Mode

3 Press PLAY MODE again to make the screen disappear.
Press PLAY to start Repeat playback.
To resume normal playback, select Repeat "Off".

Notes:
Some discs may not work with the repeat operation.

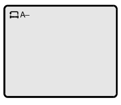
DVD VCD CD A-B Repeat playback

A-B repeat playback allows you to repeat material between two selected points.

1 Press A-B RPT during playback.

A-B RPT

The start point is selected.

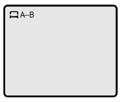


A–

2 Press A-B RPT again.

A-B RPT

The end point is selected. Playback starts at the point that you selected. Playback stops at the end point, returns to Point A automatically, then starts again.



A–B

■ **To resume normal playback**
Press **A-B RPT** again.

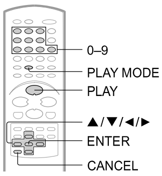
A-B RPT

" Off" appears on the screen.

Notes:
- In A-B repeat mode, subtitles near point A or B may not appear.
- A-B Repeat playback is not available in multi-angle scenes.
- A-B Repeat playback does not work when Repeat playback is on.
- You may not be able to set A-B Repeat, depending on the scenes of the DVD.
- A-B repeat does not work with an interactive DVD, MP3/WMA/JPEG CD and Video CD with PBC.

Program playback/Random playback (CD)

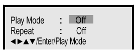
You can arrange the order of tracks on the disc.



VCD CD Program playback

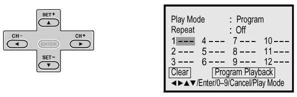
1 Press PLAY MODE in the stop mode.

SP/SLP PLAY MODE



Play Mode : Off
Repeat : Off
◄►▲▼/Enter/Play Mode

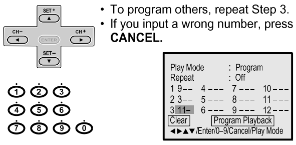
2 Press ▲ or ▼ to select Play Mode, then press ◄ / ► or to select "Program".



Play Mode : Program
Repeat : Off
1 --- 4 --- 7 --- 10 ---
2 --- 5 --- 8 --- 11 ---
3 --- 6 --- 9 --- 12 ---
Clear Program Playback
◄►▲▼/Enter/0–9/Cancel/Play Mode

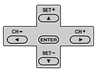
3 Press ▲/▼ or ◄ / ► to select the programming position. Use Numbered buttons (0–9) to input the Track numbers.

- To program others, repeat Step 3.
- If you input a wrong number, press **CANCEL.**

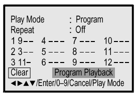


Play Mode : Program
Repeat : Off
1 9-- 4 --- 7 --- 10 ---
2 3-- 5 --- 8 --- 11 ---
3 11- 6 --- 9 --- 12 ---
Clear Program Playback
◄►▲▼/Enter/0–9/Cancel/Play Mode

4 Press ▲/▼ or ◄ / ► to select "Program Playback" and press ENTER.

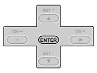


The programmes you selected will start to playback in the order.
To return to normal playback, select Play Mode: "Off".



Play Mode : Program
Repeat : Off
1 9-- 4 --- 7 --- 10 ---
2 3-- 5 --- 8 --- 11 ---
3 11- 6 --- 9 --- 12 ---
Clear Program Playback
◄►▲▼/Enter/0–9/Cancel/Play Mode

■ **To cancel program playback**
Select "Clear" and press **ENTER.**



- The program is canceled when you open the disc tray or turn the power off.

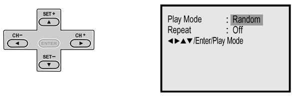
Note:
In playing back the Video CD with PBC, you cannot set Program playback.

VCD CD Random playback

1 Press PLAY MODE in the stop mode.

SP/SLP PLAY MODE

2 Press ▲/▼ to select Play Mode, then press ◄ / ► to select "Random".



Play Mode : Random
Repeat : Off
◄►▲▼/Enter/Play Mode

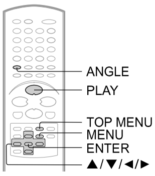
3 Press PLAY.

PLAY ►

The Random Playback will start.

Note:
In playing back the Video CD with PBC, you cannot set Random playback.

Changing angles/Title selection/DVD menu



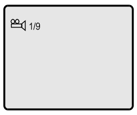
DVD Changing angles

When playing back a disc recorded with multi-angle facility, you can change the angle that you are viewing the scene from.

1 Press ANGLE during playback.

The current angle will appear.

COUNTER RESET ANGLE



1/9

2 Press ANGLE repeatedly until the desired angle is selected.

COUNTER RESET ANGLE

Note:
Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

DVD Title selection

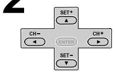
Two or more titles are recorded on some discs. If the title menu is recorded on the disc, you can select the desired title.

1 Press TOP MENU during playback.

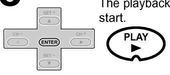
TOP MENU

Title menu appears on the screen.

2 Press ▲/▼ or ◄ / ► to select the desired title.



3 Press ENTER or PLAY.



The playback of the selected title will start.

Note:
Depending on the DVD, you may not be able to select the title.
Depending on the DVD, a "title menu" may simply be called a "menu" or "title" in the instructions supplied with the disc.

DVD DVD menu

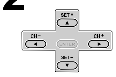
Some DVDs allow you to select the disc contents using the menu.
When you play back these DVDs, you can select the subtitle language and sound-track language, etc. using the menu.

1 Press MENU during playback.

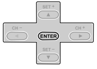
MENU

The DVD menu appears on the screen.
- Press **MENU** again to resume playback at the scene when you pressed **MENU.**

2 Press ▲/▼ or ◄ / ► to select the desired item.



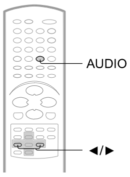
3 Press ENTER.



The menu continues to another screen. Repeat steps 2 and 3 to set the item completely.

Note:
Depending on the DVD, you may not be able to resume playback from the scene point when you pressed **MENU.**

Changing soundtrack language/
Setting surround sound



DVD VCD Changing soundtrack language

You can select the language when you play a multilingual disc.

1 Press AUDIO during playback.

AUDIO SELECT AUDIO

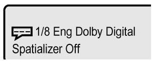
The current soundtrack language will appear.

2/8 Fra Dolby Digital
Spatializer Off

2 Press AUDIO repeatedly until the desired language is selected.

AUDIO SELECT AUDIO

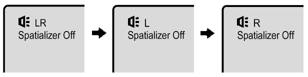
The on-screen display will disappear after a few seconds.



1/8 Eng Dolby Digital
Spatializer Off

■ **In case of Video CD playback**

Audio type changes as follows each time you press **AUDIO.**



LR
Spatializer Off

L
Spatializer Off

R
Spatializer Off

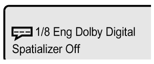
Notes:
- If the desired language is not heard after pressing the button several times, the language is not recorded on the disc.
- Changing soundtrack language is canceled when you open the disc tray. The initial default language or available language will be heard if the disc is played back again.

DVD VCD CD Setting surround sound

This DVD/VCR equipped with a "SPATIALIZER VIRTUAL SURROUND". It can produce the effect of being in a cinema or a concert hall.

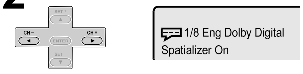
1 During disc playback press AUDIO.

AUDIO SELECT AUDIO



1/8 Eng Dolby Digital
Spatializer Off

2 Press ◄ or ► to select "On".



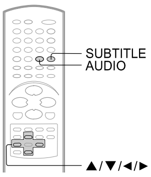
1/8 Eng Dolby Digital
Spatializer On

■ **To cancel Surround mode:**
Follow the left steps 1~2, then press ◄ or ► to select the "Off" position.

Note:
The "SPATIALIZER VIRTUAL SURROUND" is effective only for the sound of disc.

Certain audio features of this product manufactured under a license from Desper Products, Inc. *Spatializer*® and the circle-in-square device are trademarks owned by Desper Products, Inc.

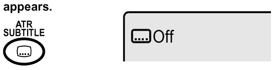
Setting subtitles/Karaoke playback



DVD Turning the subtitles on and off

When playing back a disc recorded with subtitles, you can turn the subtitles on or off.

Press SUBTITLE during playback until "Off" appears.



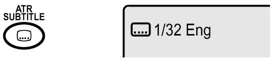
Off

Note:
Depending on the DVD, you may not be able to turn the subtitles on even if they are recorded on it.
Depending on the DVD, you may not be able to turn the subtitles off.

DVD Changing the subtitle language

You can select the language when playing back a disc recorded with multi-lingual subtitles.

1 **Press SUBTITLE repeatedly during playback until your desired language appears.**



1/32 Eng

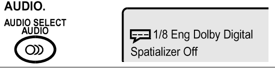
2 **The on-screen display will disappear after a few seconds.**

Notes:
- Changing subtitle language is canceled when you open the disc tray.
- Depending on the DVD, you may not be able to change the subtitles even if multilingual subtitles are recorded on it. While playing the DVD, the subtitle may change when: -you open or close the disc tray -you change the title.
- In some cases, the subtitle language is not changed to the selected one immediately.

DVD Karaoke playback

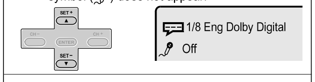
You can turn the vocal on or off recorded on the DVD KARAOKE.

1 **During DVD KARAOKE disc playback, press AUDIO.**



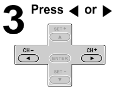
1/8 Eng Dolby Digital
Spatializer Off

2 **Press ▲ or ▼ until the KARAOKE symbol (🎤) appears.**
- If you play non-Karaoke disc, the KARAOKE symbol (🎤) does not appear.



1/8 Eng Dolby Digital
🎤 Off

3 **Press ◄ or ► to select "On" or "Off".**

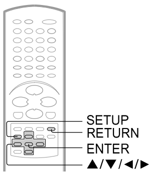


On : The primary vocal is output when it is recorded on the disc.
Off : The primary vocal is not output.

Notes:
- The vocal output feature is used during playback of Dolby Digital (multi-channel) recorded DVD KARAOKE discs. This feature allows you to turn off vocal audio tracks, or restore them for background accompaniment.
- When playing Karaoke, connect appropriate audio equipment such as an amplifier to the DVD/VCR.

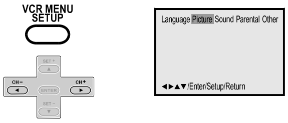
E.B.L. (Enhanced Black Level)

To select the black level of playback pictures, set your preference and monitor's ability.



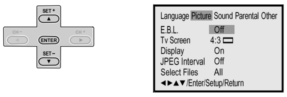
DVD Setting E.B.L.

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



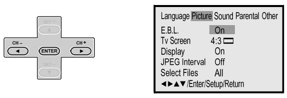
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "E.B.L.".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 ▭
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

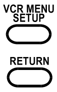
3 **Press ◄ / ► or ENTER to select "On" or "Off".**



Language Picture Sound Parental Other
E.B.L. On
Tv Screen 4:3 ▭
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

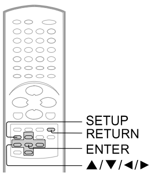
On: Enhanced grey scale (0 IRE cut off)
Off: Standard grey scale (7.5 IRE cut off)

4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



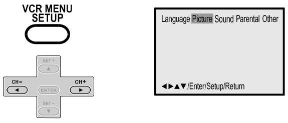
Setting the aspect ratio of TV screen

You can select the aspect ratio for your TV.
The following pages describe the setup/operation in DVD mode.



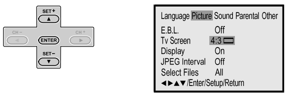
DVD Setting the aspect ratio of TV screen

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



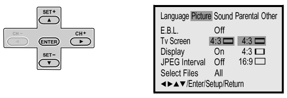
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "Tv Screen".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 ▭
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

3 **Press ► or ENTER.**
Press ▲ or ▼ to select your desired screen type, then press ENTER.



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 ▭ 4:3 ▭
Display On 4:3 □
JPEG Interval Off 16:9 ▭
Select Files All
◄►▲▼/Enter/Setup/Return

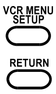
You have the following screen sizes to choose from:

4:3 ▭ Letter box:
Select this mode when connecting to a conventional TV. When playing back a wide screen-DVD disc, it displays the wide picture with black bands at the top and bottom of screen.

4:3 □ Pan scan:
It displays the wide picture on the whole screen with left and right edges automatically cut off.

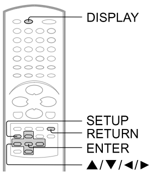
16:9 ▭ Wide:
Select this mode when connecting to a wide-screen TV. A wide screen picture is displayed full size.

4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Note:
If the DVD disc is not formatted in the pan & scan style, it displays 4:3 style.

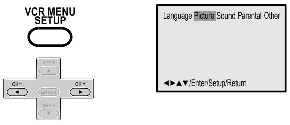
Setting on screen display/Status display of disc



DVD Setting on screen display

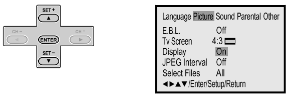
On screen display can be switched on or off when you press the buttons.

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



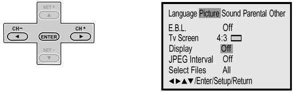
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "Display".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 ▭
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

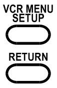
3 **Press ◄ / ► or ENTER to select "On" or "Off".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 ▭
Display Off
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

On: On screen displays appear when you press the buttons (factory setting).
Off: On screen displays do not appear when you press any buttons.

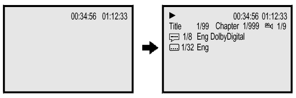
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



DVD VCD CD Status display of disc

Each press of DISPLAY, the status display of the disc will appear on the screen and change as follows.

DVD



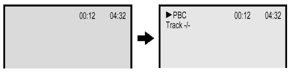
00:34:56 01:12:33

➡

▶ 00:34:56 01:12:33
Title 1/99 Chapter 1/999 1/9
1/8 Eng DolbyDigital
1/32 Eng

To make status display disappear, press **DISPLAY** again.

Video CD

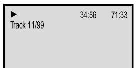


00:12 04:32

➡

▶PBC 00:12 04:32
Track -/-

Audio CD

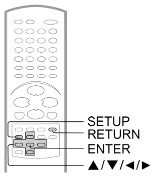


▶ 34:56 71:33
Track 11/99

When you playback the CD disc, the status display will appear on the screen and continue displaying.

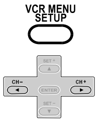
Dynamic Range Control

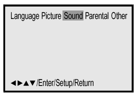
DRC (Dynamic Range Control) enables you to control the dynamic range so as to achieve a suitable sound for your equipment.



Dynamic Range Control

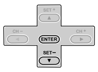
1 **Press SETUP in the stop mode.
Press ◀ or ▶ to select “Sound”.**

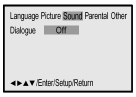



Language Picture Sound Parental Other

◀▶▲▼/Enter/Setup/Return

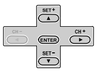
2 **Press ▼ or ENTER to select “Dialogue”.**

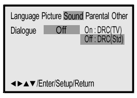



Language Picture Sound Parental Other
Dialogue Off

◀▶▲▼/Enter/Setup/Return

3 **Press ▶ or ENTER, then press ▲ or ▼ to select desired setting.**

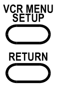



Language Picture Sound Parental Other
Dialogue Off On : DRC(TV)
Off : DRC(Std)

◀▶▲▼/Enter/Setup/Return

On:	Loud sound such as explosion or the like is toned down slightly when played back. This makes it suitable for when it is connected to a stereo.
Off:	It plays back at the recording level on the disc.

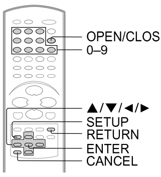
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Notes:
- This function works only during playback of Dolby Digital recorded discs.
- The level of Dynamic Range Reduction may differ depending on DVD video disc.

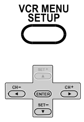
Parental control setting

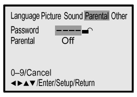
Some discs are specified not suitable for children. Such discs can be limited not to play back with the unit.



Parental control setting

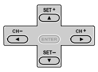
1 **Press SETUP in the stop mode or No Disc. Press ◀ or ▶ to select “Parental”. Then press ▼ or ENTER.**

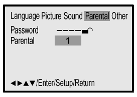



Language Picture Sound Parental Other
Password ––––
Parental Off

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

2 **Press ▲ or ▼ to select “Parental”, then press ◀ or ▶ until the level you require appears.**

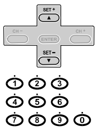


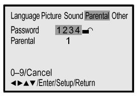

Language Picture Sound Parental Other
Password ––––
Parental 1

◀▶▲▼/Enter/Setup/Return

- **Level Off:** The parental control setting does not function.
- **Level 8:** All DVD software can be played back.
- **Level 1:** DVD software for adults cannot be played back.
- Select from the level 1 to level 8. The limitation will be more severe as the level number is lower.

3 **Press ▲ or ▼ to select “Password”.
Press number buttons (0-9) to input a 4-digit password.**

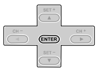



Language Picture Sound Parental Other
Password 1234
Parental 1

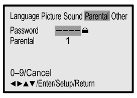
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

Be sure to remember this number!
- If you input a wrong number, press **CANCEL**.

4 **Press ENTER to store the password.**

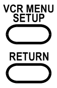


Note: Now the rating is locked and the setting cannot be changed unless you enter the correct password.

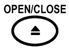

Language Picture Sound Parental Other
Password ––––
Parental 1

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

5 **Press SETUP or RETURN to remove the parental control screen.**

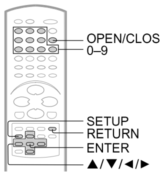


6 **Press OPEN/CLOSE to activate parental control setting.**



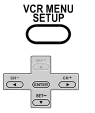
Notes:
- **If each setup (pages 57~66) has been completed, the unit can always be worked under the same conditions (especially with DVD discs).
Each setup will be retained in the memory if you turn the power off.**
- Depending on the discs, the unit cannot limit playback.
- Some discs may not be encoded with specific rating level information though its disc jacket says “adult”. For those discs, the age restriction will not work.

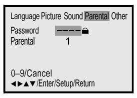
To change the parental level



To change the parental level

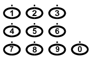
1 **Press SETUP in the stop mode or No Disc. Press ◀ or ▶ to select “Parental”.
Then press ▼ or ENTER.**

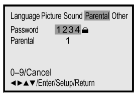



Language Picture Sound Parental Other
Password ––––
Parental 1

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

2 **Press number buttons (0–9) to enter the password you have stored.**

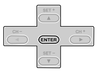


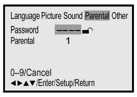

Language Picture Sound Parental Other
Password 1234
Parental 1

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

3 **Press ENTER.**

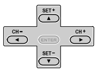
The rating is now unlocked.

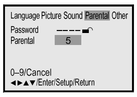



Language Picture Sound Parental Other
Password ––––
Parental 1

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

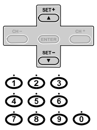
4 **Press ▲ or ▼ to select “Parental”, then press ◀ or ▶ to change the parental level.**



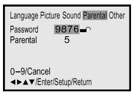

Language Picture Sound Parental Other
Password ––––
Parental 5

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

5 **Press ▲ or ▼ to select “Password”, then press number buttons (0–9) to enter the password.**

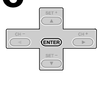


Note: You can change the password if you want.

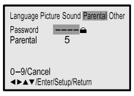

Language Picture Sound Parental Other
Password 9876
Parental 5

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

6 **Press ENTER.**

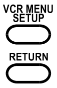


Now the parental level is changed and locked.


Language Picture Sound Parental Other
Password ––––
Parental 5

0–9/Cancel
◀▶▲▼/Enter/Setup/Return

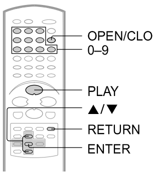
7 **Press SETUP or RETURN
to remove the parental control screen.**



If you forget the password...
1. Press **OPEN/CLOSE** to open the disc tray.
2. Remove the disc.
3. Press **OPEN/CLOSE** again to close the disc tray. “No Disc” appears on the screen.
4. While holding **7** down on the remote control, press **STOP** on the front panel. “PASSWORD CLEAR” appears on the screen.
5. Enter a new password again.

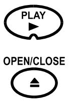
Temporary disabling of rating level by DVD disc

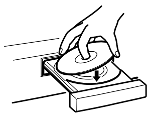
Depending on the DVD disc, the disc may try to temporarily cancel the rating level that you have set.
It is up to you to decide whether to cancel the rating level or not.



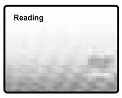
Temporary disabling of rating level by DVD disc

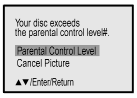
1 **Load a DVD disc and press PLAY or OPEN/CLOSE on the unit (see page 42).**





2 **If the DVD disc has been designed to temporarily cancel the Rating level, the screen which follows the “Reading” screen will change, depending on which disc is played. If you select “YES” with the ENTER key, “Your disc exceeds the parental control level#.” screen will then appear.**

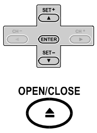

Reading


Your disc exceeds
the parental control level#.

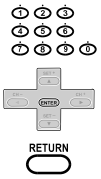
Parental Control Level
Cancel Picture

▲▼/Enter/Return

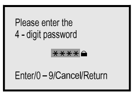
3 **If you wish to cancel the set rating level temporarily, select “Parental Control Level” with ▲ or ▼, then press ENTER. If the 4-digit password at step 2 on page 62 has been set, the password entering screen will appear as shown in step 4.
Alternatively, if the password has not been set, playback will commence. If you don’t know (or have forgotten) the password, select “Cancel Picture”. The setting screen will disappear. Press OPEN/CLOSE to remove the disc.**



4 **Enter the password with number buttons (0–9). Then press ENTER.**



If you interrupt the entering, press **RETURN**.


Please enter the
4 - digit password

****

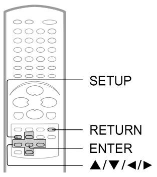
Enter/0 – 9/Cancel/Return

5 **Playback will commence if the entered password was correct.**

Note:
This temporary cancellation of rating level will be kept until the disc is ejected.
When the disc is ejected, the original rating level will be set again automatically.

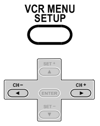
Setting OSD language

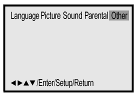
The setup language can be selected.



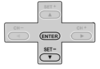
Setting OSD language

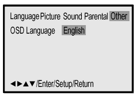
1 **Press SETUP in the stop mode or NO DISC.**
Press ◀ or ▶ to select “Other”.



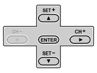

Language Picture Sound Parental Other
◀▶▲▼/Enter/Setup/Return

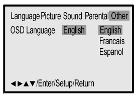
2 **Press ▼ or ENTER to select “OSD Language”.**



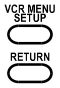

Language Picture Sound Parental Other
OSD Language English
◀▶▲▼/Enter/Setup/Return

3 **Press ▶ or ENTER and then press ▲ or ▼ to select desired language (e.g. English), then press ENTER.**




Language Picture Sound Parental Other
OSD Language English English
Francais
Espanol
◀▶▲▼/Enter/Setup/Return

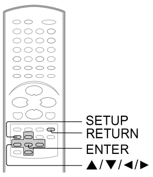
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



If the unit does not operate properly: Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again.

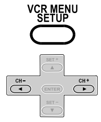
Setting language

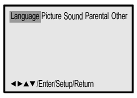
You can select the language of “Menu”, “Subtitle” and “Audio” if their languages are recorded onto the disc more than one language.



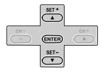
Setting language

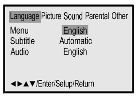
1 **Press SETUP in the stop mode or No Disc.**
Press ◀ or ▶ to select “Language”.



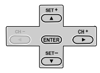

Language Picture Sound Parental Other
◀▶▲▼/Enter/Setup/Return

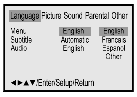
2 **Press ▼ or ENTER, then press ▲ or ▼ to select desired langugage item.**




Language Picture Sound Parental Other
Menu English
Subtitle Automatic
Audio English
◀▶▲▼/Enter/Setup/Return

3 **Press ▶ or ENTER.**
Press ▲ or ▼ to select your desired language, then press ENTER.




Language Picture Sound Parental Other
Menu English English
Subtitle Automatic Francais
Audio English Espanol
Other
◀▶▲▼/Enter/Setup/Return

English, Francais, Espanol:
The selected language will be heard or seen.

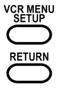
Other:
Other language can be selected (see “Language code list” on page 67).

Original: (Audio)
The unit will select the first priority language of each disc.

Automatic: (Subtitle)
- The unit will automatically select the same language in the AUDIO setting.
- When the unit selects the same language as the AUDIO, the subtitles will not appear during playback.
- When you do not use the same language as the AUDIO, the subtitles will appear during playback.

Off: (Subtitle)
Subtitles do not appear.

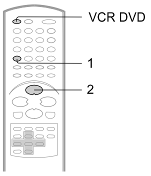
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Note:
If the selected language is not recorded on the disc, the first-priority language is selected.

Selecting PROGRESSIVE scan

The progressive scan capability provides the highest resolution pictures with less flicker and line structure.
If you are using the Component video jacks, but are connecting the DVD/VCR to a standard (analog) television, set PROGRESSIVE to Off.
If you are using the Component video jacks for connection to a TV or monitor that is compatible with a progressive scan signal, set PROGRESSIVE to On.



Selecting PROGRESSIVE scan

Preparation:
- Connect to a TV equipped with component jacks.
- Turn ON the TV and set it to the corresponding video input mode.
- Set the S-VIDEO/COMPONENT video selector switch on the rear panel to COMPONENT position.
- Press **VCR DVD** selector to select the DVD mode. (The DVD indicator will light.)

1 **Press PROGRESSIVE in the stop mode.**

INPUT SELECT
PROGESSIVE

The progressive indicator “P” on the display window will light.

- The unit recognizes the picture source (film or video) of the current disc according to the disc information.

2 **Press PLAY to start playback.**

There are two types of source content in pictures recorded in DVD video discs: film content (pictures recorded from films at 24 frames per second) and video content (video signals recorded at 30 frames per second).

When the unit plays back a film source material, uninterlaced progressive output signals are created using the original information. When a video content is played back, the unit interleaves lines between the interlaced lines on each to create the interpolated picture and outputs as the progressive signal.

■ **To select PROGRESSIVE scan Off**
Press **PROGRESSIVE** in the stop mode.
The progressive indicator “P” on the display window will go off.

Notes:
- Some discs may not be played back with the progressive scanning mode correctly because of the disc characteristics or recording condition.
- If your TV does not accept the progressive scan format, the picture will appear scrambled if you select progressive scan output from the unit. In such a case, select PROGRESSIVE scan Off.
- Once PROGRESSIVE scan On, all other video outputs are disabled except component video outputs.
- You cannot make the progressive scanning mode active in following cases.
  - – The unit is in the VCR mode.
  - – The disc is played back in the DVD mode.
  - – The S-VIDEO/COMPONENT video selector switch is set to S-VIDEO position.

Language code list

Enter the appropriate code number for the initial settings “Menu”, “Subtitle” and/or “Audio” (see page 65).

Language Name	Code	Language Name	Code	Language Name	Code	Language Name	Code
Abkhazian	1112	Fiji	1620	Lingala	2224	Singhalese	2919
Afar	1111	Finnish	1619	Lithuanian	2230	Slovak	2921
Afrikaans	1116	French	1628	Macedonian	2321	Slovenian	2922
Albanian	2927	Frisian	1635	Malagasy	2317	Somali	2925
Amharic	1123	Galician	1722	Malay	2329	Spanish	1529
Arabic	1128	Georgian	2111	Malayalam	2322	Sundanese	2931
Armenian	1835	German	1415	Maltese	2330	Swahili	2933
Assamese	1129	Greek	1522	Maori	2319	Swedish	2932
Aymara	1135	Greenlandic	2122	Marathi	2328	Tagalog	3022
Azerbaijani	1136	Guarani	1724	Moldavian	2325	Tajik	3017
Bashkir	1211	Gujarati	1731	Mongolian	2324	Tamil	3011
Basque	1531	Hausa	1811	Nauru	2411	Tatar	3030
Bengali; Bangla	1224	Hebrew	1933	Nepali	2415	Telugu	3015
Bhutani	1436	Hindi	1819	Norwegian	2425	Thai	3018
Bihari	1218	Hungarian	1831	Oriya	2528	Tibetan	1225
Breton	1228	Icelandic	1929	Panjabi	2611	Tigrinya	3019
Bulgarian	1217	Indonesian	1924	Pashto, Pushto	2629	Tonga	3025
Burmese	2335	Interlingua	1911	Persian	1611	Turkish	3028
Byelorussian	1215	Irish	1711	Polish	2622	Turkmen	3021
Cambodian	2123	Italian	1930	Portuguese	2630	Twi	3033
Catalan	1311	Japanese	2011	Quechua	2731	Ukrainian	3121
Chinese	3618	Javanese	2033	Rhaeto-Romance	2823	Urdu	3128
Corsican	1325	Kannada	2124	Romanian	2825	Uzbek	3136
Croatian	1828	Kashmiri	2129	Russian	2831	Vietnamese	3219
Czech	1329	Kazakh	2121	Samoan	2923	Volapük	3225
Danish	1411	Kirghiz	2135	Sanskrit	2911	Welsh	1335
Dutch	2422	Korean	2125	Scots Gaelic	1714	Wolof	3325
English	1524	Kurdish	2131	Serbian	2928	Xhosa	3418
Esperanto	1525	Laothian	2225	Serbo-Croatian	2918	Yiddish	2019
Estonian	1530	Latin	2211	Shona	2924	Yoruba	3525
Faroese	1625	Latvian, Lettish	2232	Sindhi	2914	Zulu	3631

Troubleshooting

Check the following guide for the possible cause of a problem before contacting service.

SYMPTOMS	POSSIBLE SOLUTIONS	PAGE
DVD/VCR		
DVD/VCR does not operate.	• Make sure the power cord is plugged in. • Try another AC outlet. • Power is off, check fuse or circuit breaker. • Unplug unit, then plug it back in. • Select the DVD or VCR mode before operating.	5 – – 5 30,42
No picture.	• Antenna connection is not correct or antenna cable is disconnected. • The video channel is not in the correct position or the TV is not set to the video channel 3 or 4. • Check the unit is connected correctly. • The video input selector of the TV is not set to VIDEO. Set to VIDEO (or equivalent). • Channel is set to the external mode.	14~17 22 14~19 – –
No sound.	• Check the unit is connected correctly. • Check the input selector of the amplifier is set properly. • The unit is in the Special playback mode.	14~19 – 31,44
The remote control does not function.	• Aim the remote control at the remote sensor. • Operate within Approx. 7 Meters or reduce the light in the room. • Clear the path of the beam. • The batteries are weak. Replace the batteries. • Check the batteries are inserted correctly.	13
No Cable TV reception.	• Check all Cable TV connections. • Station or Cable TV system problems, try another station.	16,17
VCR		
TV recording does not work.	• The erase prevention tab of the video cassette is broken off. • The unit is in the external input mode.	29,34
Timer recording does not work.	• The time is not set correctly. • The recording start/end time is not set correctly. • The TIMER REC has not been pressed (⏲ is not lit).	24 37 37
Noise bars on screen.	• Tracking adjustment beyond range of automatic tracking circuit. Try Manual tracking adjustment. • Video heads are dirty. • The tape is worn or damaged.	31 31 –
DVD		
Display is not shown in your language.	• Select proper language in the menu options.	64
Playback doesn't start.	• No disc is inserted. • The disc may be dirty. Clean up the disc. • The unit cannot play DVD-ROMs, etc.	42 7 8
Stopping playback, slow-motion play, repeat play, or memory play, etc. cannot be performed.	• Some discs may not do some of the functions.	–
No picture, or the screen is blurred or divided into two parts.	• The S-VIDEO/COMPONENT selector is not set correctly. • The PROGRESSIVE scan is On through the unit is connected to a TV via the VIDEO OUT or the S-VIDEO OUT jack.	19 66
No 4:3 (16:9) picture.	• The setup does not match your TV.	58
No on-screen display.	• Select Display "On".	59
No surround sound.	• The setup does not match your stereo system.	20
The unit or remote operation key is not functioning.	• Turn off the unit and unplug the AC power cord for several minutes, then replug it.	–
Playback does not start when the title is selected.	• Check the Parental setup.	61,62
Audio soundtrack and/or subtitle language is not changed when you play back a DVD.	• Multilingual language is not recorded on the DVD disc.	65
No subtitle.	• Some discs have no subtitles. • Subtitles are cleared. Press SUBTITLE.	56
Angle cannot be changed.	• Multi-angles are not recorded on the DVD disc.	54
✋ appears on the screen.	• The function is prohibited with the unit or the disc.	44

Specifications

General

Power supply	AC 120 V 60 Hz
Power consumption	Operation: 18 W, Stand by: 2 W
Weight	7.7 lbs (3.5 kg)
Dimensions	Width: 16-15/16 inches (430 mm) Height: 3-7/8 inches (99 mm) Depth: 8-13/16 inches (224.5 mm)
Tuner	181 channel freq. synthesized VHF 2-13 UHF 14-69 Cable TV 113 Channels
Antenna input/output	UHF/VHF In/Out: 75 Ω coaxial
RF channel output	Channel 3 or 4, Switchable
Color system	NTSC
Video head	4 Rotary heads
Audio track	Hi-Fi sound - 2 Tracks / MONO sound - 1 Track
Hi-Fi frequency response	20 Hz to 20,000 Hz
Hi-Fi dynamic range	More than 90dB
F.FWD/REW time at 25˚C (77˚F)	Approx. 1 minute and 48 seconds (with T-120 Cassette Tape)
Applicable disc	DVD (12 cm, 8 cm), CD (12 cm, 8 cm)
Frequency range	DVD: 4 Hz-22 kHz, CD: 4 Hz-20 kHz
S/N ratio	90dB (DVD)
Harmonic distortion	0.02% (DVD)
Wow and flutter	Less than 0.01% Wrms
Operating conditions	Temperature: 5˚C-40˚C (41˚F-104˚F), Operating status: Horizontal

Input/Output

DVD/VCR	
Video input	1.0 V (p-p), 75 Ω, negative sync., pin jack x 2
Video output	1.0 V (p-p), 75 Ω, negative sync., pin jack x 1
Audio input	–8 dBm, 50 kΩ, negative sync., pin jack (L/R) x 2
Audio output	–8 dBm, 1 kΩ, negative sync., pin jack (L/R) x 1
DVD	
S-video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., Mini DIN 4-pin x 1 (C) 0.286 V (p-p), 75 Ω
Component video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., pin jack x 1 (P_B)/(P_R) 0.7 V (p-p), 75 Ω, pin jack x 2
Audio output (BITSTREAM/PCM COAXIAL)	0.5 V (p-p), 75 Ω, pin jack x 1
Audio output (BITSTREAM/PCM OPTICAL)	Optical connector x 1
Audio output (ANALOG)	–12 dB, 1 kΩ, pin jacks (L, R) x 1
S-VIDEO/COMPONENT video selector	Slide switch x 1

Supplied accessories

Audio/video cable	1
Remote control (SE-R0108)	1
Batteries (R03/AAA)	2
75 ohm coaxial cable	1

• Designs and specifications are subject to change without notice.

Limited warranty

Limited United States Warranty
DVD Players - Exchange Warranty

Toshiba America Consumer Products, L.L.C. ("TACP") makes the following limited warranties to original consumers in the United States. THESE LIMITED WARRANTIES EXTEND TO THE ORIGINAL CONSUMER PURCHASER OR ANY PERSON RECEIVING THIS DVD PLAYER AS A GIFT FROM THE ORIGINAL CONSUMER PURCHASER AND TO NO OTHER PURCHASER OR TRANSFEREE.

PRODUCTS PURCHASED IN THE U.S.A. AND USED IN CANADA ARE NOT COVERED BY THESE WARRANTIES.

PRODUCTS PURCHASED IN CANADA AND USED IN THE U.S.A. ARE NOT COVERED BY THESE WARRANTIES.

Limited Ninety (90) Day Warranty

TACP warrants this DVD PLAYER and its parts against defects in materials or workmanship for a period of ninety (90) days after the date of original retail purchase. DURING THE FIRST 90 DAYS FROM THE PURCHASE DATE, TACP WILL EXCHANGE A DEFECTIVE DVD PLAYER WITH A NEW OR REFURBISHED PLAYER WITHOUT CHARGE TO YOU. YOU MUST CONTACT TOSHIBA'S CONSUMER SOLUTIONS CENTER FOR INSTRUCTIONS ON HOW TO PROCESS YOUR IN WARRANTY EXCHANGE REQUEST. THE CONSUMER IS RESPONSIBLE FOR ALL INBOUND TRANSPORTATION AND INSURANCE CHARGES FOR THE DVD PLAYER TO THE EXCHANGE CENTER. DURING THE PERIOD FROM 91 DAYS AND BEYOND, FROM THE PURCHASE DATE, TACP WILL EXCHANGE A DEFECTIVE DVD PLAYER WITH A NEW OR REFURBISHED PLAYER FOR A NOMINAL FEE. YOU MUST CONTACT TOSHIBA'S CONSUMER SOLUTIONS CENTER FOR INSTRUCTIONS ON HOW TO PROCESS YOUR EXCHANGE REQUEST. THE CONSUMER IS RESPONSIBLE FOR ALL INBOUND TRANSPORTATION AND INSURANCE CHARGES FOR THE DVD PLAYER TO THE EXCHANGE CENTER.

***Rental Units**

The warranty for rental units begins with the first rental or thirty (30) days from the date of shipment to the rental firm, whichever comes first.

***Commercial Units**

DVD PLAYERs sold and used for commercial purposes have a limited ninety (90) day warranty for all parts, labor.

Owner's Manual and Demographic Card

You should read this owner's manual thoroughly before operating this DVD PLAYER. You should complete and mail the enclosed Demographic card within ten days after you, or the person who has given you this product as a gift, purchased this DVD PLAYER. This is one way to enable TACP to provide you with better customer service and improved products. Failure to return the Demographic card will not affect your rights under this warranty.

Your Responsibility

THE ABOVE WARRANTIES ARE SUBJECT TO THE FOLLOWING CONDITIONS:

(1) You must provide your bill of sale or other proof of purchase.

(2) All warranty servicing of this DVD PLAYER must be made by an Authorized TACP Service Station.

(3) The warranties from TACP are effective only if the DVD PLAYER is purchased and operated in the U.S.A. or Puerto Rico.

(4) Labor service charges for set installation, set up, adjustment of customer controls and installation or repair of antenna systems are not covered by these warranties. Reception problems caused by inadequate antenna systems are your responsibility.

(5) Warranties extend only to defects in materials or workmanship as limited above and do not extend to any DVD PLAYER or parts which have been lost or discarded by you or to damage to DVD PLAYER or parts caused by misuse, accident, Acts of God, such as lightning or fluctuations in electric power, improper installation, improper maintenance or use in violation of instructions furnished by TACP, or to units which have been modified or had the serial number removed, altered, defaced or rendered illegible.

How to Obtain Warranty Services

If, after following all of the operating instructions in this manual and checking the section "Troubleshooting", you find that service is needed:

(1) For instructions on how to obtain warranty service for exchange program DVD Players, contact TACP'S toll free Call Center at 1-800-[illegible].

(2) Include your bill of sale or other proof of purchase along with the DVD player, when sending it to the Authorized TACP Service Station SPECIFIED by TACP's Call Center. You must pay for all transportation and insurance charges for the DVD Products and from the Service Station.

For additional information, visit TACP's web site: www.tacp.toshiba.com

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DVD VIDEO COMPACT disc DIGITAL VIDEO COMPACT disc DIGITAL AUDIO DOLBY DIGITAL dts DIGITAL OUT SPATIALIZER® VIRTUAL SURROUND Designed for Windows Media™

DVD VIDEO PLAYER & VIDEO CASSETTE RECORDER
SD-V392SCA

OWNER'S MANUAL

VHS Hi-Fi SQPB

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This device does not tape-record copy protected DVD Video Discs.

IMPORTANT SAFEGUARDS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

⚠ The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

⚠ The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: **TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, do not expose this appliance to rain or moisture.**

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION: Changes or modifications not expressly approved by the partly responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

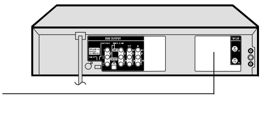
CAUTION: THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS USER'S GUIDE CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking
The rating sheet and the safety caution are on the rear of the unit.



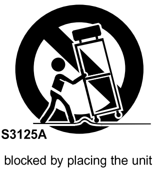
CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

---

1. **READ INSTRUCTIONS**
   All the safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS**
   The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS**
   All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS**
   All operating and use instructions should be followed.
5. **CLEANING**
   Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning the exterior cabinet only.
6. **ATTACHMENTS**
   The manufacturer of this unit does not make any recommendations for attachments, as they may cause hazards.
7. **WATER AND MOISTURE**
   Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.
8. **ACCESSORIES**
   Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit.

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3125A

9. **VENTILATION**
   Slots and openings in the cabinet back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and/or the manufacturer's instructions have been adhered to.
10. **POWER SOURCE**
    This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. **GROUNDING OR POLARIZATION**
    This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Instead of the polarized alternating-current line plug, your unit may be equipped with a 3-wire grounding-type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.Do not defeat the safety purpose of the grounding-type plug.
12. **POWER-CORD PROTECTION**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

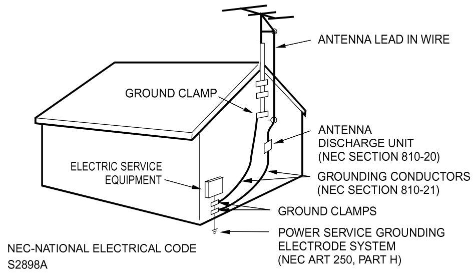
IMPORTANT SAFEGUARDS

13. **LIGHTNING**
    To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.
14. **POWER LINES**
    An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall onto or against such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.
15. **OVERLOADING**
    Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.
16. **OBJECT AND LIQUID ENTRY**
    Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.
17. **OUTDOOR ANTENNA GROUNDING**
    If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
18. **SERVICING**
    Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
    For example:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the unit.
    c. If the unit has been exposed to rain or water.
    d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    e. If the unit has been dropped or the cabinet has been damaged.
    f . When the unit exhibits a distinct change in performance, this indicates a need for service.
19. **REPLACEMENT PARTS**
    When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original part.
    Unauthorized substitutions may result in fire, electric shock or other hazards.
20. **SAFETY CHECK**
    Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
21. **HEAT**
    The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
22. **DISC TRAY**
    Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.
23. **CONNECTING**
    When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

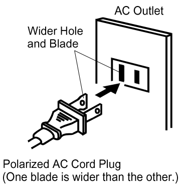
IMPORTANT SAFEGUARDS / Power source

24. **LASER BEAM**
    Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.
25. **DISC**
    Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
26. **NOTE TO CABLE TV SYSTEM INSTALLER**
    This reminder is provided to call the Cable TV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING AS PER THE
NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC-NATIONAL ELECTRICAL CODE
S2898A

Power source



TO USE AC POWER SOURCE
Use the AC polarized line cord provided for operation on AC. Insert the AC cord plug into a standard 120V 60Hz polarized AC outlet.

Notes:
- Never connect the AC line cord plug to other than the specified voltage (120V 60Hz). Use the attached power cord only.
- If the polarized AC cord does not fit into a non-polarized AC outlet, do not attempt to file or cut the blade. It is the user's responsibility to have an electrician replace the obsolete outlet.
- If you cause a static discharge when touching the unit and the unit fails to function, simply unplug the unit from the AC outlet and plug it back in. The unit should return to normal operation.

Precautions

Notes on handling

- ■ When shipping the DVD/VCR, the original shipping carton and packing materials come in handy. For maximum protection, repack the unit as it was originally packed at the factory.
- ■ Do not use volatile liquids, such as insect spray, near the DVD/VCR. Do not leave rubber or plastic products to contact the DVD/VCR for a prolonged period. They will leave marks on the finish.
- ■ The top and rear panels of the DVD/VCR may become warm after a long period of use. This is not a malfunction.
- ■ When the DVD/VCR is not in use, be sure to remove the disc and the video cassette turn off the power.
- ■ If you do not use the DVD/VCR for a long period, the unit may not function properly in the future. Turn on and use the DVD/VCR occasionally.

Notes on locating

- ■ Place the DVD/VCR on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand. The loaded disc or the video tape may become dis-aligned and damage the DVD/VCR.
- ■ When you place this DVD/VCR near a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. In this case, place the DVD/VCR away from the TV, radio, or VCR.

Notes on cleaning

Use a soft, dry cloth for cleaning.
- ● For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry.
  Do not use any type of solvent, such as thinner and benzine, as they may damage the surface of the DVD/VCR.
- ● If you use a chemical saturated cloth to clean the unit, follow that product's instructions.

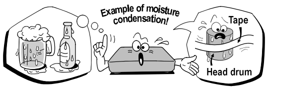
To obtain a clear picture

The DVD/VCR is a high technology, precision device. If the video head, the head drum, the optical pick-up lens or disc drive parts are dirty or worn down, the picture quality will deteriorate. To obtain a clear picture, we recommend regular inspection and maintenance (cleaning or parts replacement) every 1,000 hours of use depending on the operating environment. For details, contact your nearest dealer.

Notes on moisture condensation

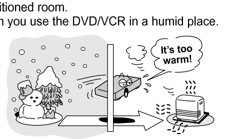
Moisture condensation damages the DVD/VCR. Please read the following carefully.

Moisture condensation occurs, for example, when you pour a cold drink into a glass on a warm day. Drops of water form on the outside of the glass. In the same way, moisture may condense on the head drum or the optical pick-up lens inside this unit, one of the most crucial internal parts of the DVD/VCR.



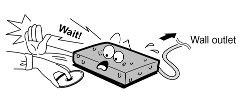
Moisture condensation occurs during the following cases.

- ● When you bring the DVD/VCR directly from a cold place to a warm place.
- ● When you use the DVD/VCR in a room where you just turned on the heater, or a place where the cold wind from the air conditioner directly hits the unit.
- ● In summer, when you use the DVD/VCR in a hot and humid place just after you move the unit from an air conditioned room.
- ● When you use the DVD/VCR in a humid place.


It's too warm!

Do not use the DVD/VCR when moisture condensation may occur.

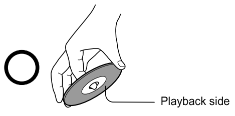
If you use the DVD/VCR in such a situation, it may damage discs and internal parts. Remove the disc or the video tape, connect the power cord of the DVD/VCR to the wall outlet, turn on the DVD/VCR, and leave it for two or three hours. After two or three hours, the DVD/VCR will have warmed up and evaporated any moisture. Keep the DVD/VCR connected to the wall outlet and moisture condensation will seldom occur.



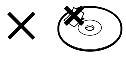
Notes on discs

On handling discs

- ● Do not touch the playback side of the disc.

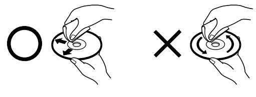


- ● Do not attach paper or tape to discs.



On cleaning discs

- ● Fingerprints and dust on the disc cause picture and sound deterioration. Wipe the disc from the center outwards with a soft cloth. Always keep the disc clean.



- ● If you cannot wipe off the dust with a soft cloth, wipe the disc lightly with a slightly moistened soft cloth and finish with a dry cloth.
- ● Do not use any type of solvent such as thinner, benzine, commercially available cleaners or antistatic spray for vinyl LPs. It may damage the disc.

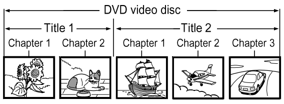
On storing discs

- ● Do not store discs in a place subject to direct sunlight or near heat sources.
- ● Do not store discs in places subject to moisture and dust such as a bathroom or near a humidifier.
- ● Store discs vertically in a case. Stacking or placing objects on discs outside of their case may cause warping.

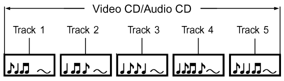
Structure of disc contents

Normally, DVD video discs are divided into titles, and the titles are sub-divided into chapters. VIDEO CDs and audio CDs are divided into tracks.

DVD video disc



Video CD/Audio CD



Each title, chapter or track is assigned a number, which is called "title number", "chapter number" or "track number" respectively.
There may be discs that do not have these numbers.

Notes on copyright

It is forbidden by law to copy, broadcast, show, broadcast on cable, play in public, and rent copyrighted material without permission.

This device does not tape-record copy protected DVD Video Discs.
The device is not to be used for copying copyrighted content without the express written permission of the copyright owner.
Obtaining such permission is the sole responsibility of the user.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Consumers should note that not all high definition television sets are fully compatible with this product and may cause artifacts to be displayed in the picture. In case of 525 progressive scan picture problems, it is recommended that the user switch the connection to the "STANDARD DEFINITION" output. If there are questions regarding our TV set compatibility with this model 525p DVD player, please contact our customer service center.

Notes on discs (continued)

About this owner's manual

This owner's manual explains the basic instructions of this DVD/VCR. Some DVD video discs are produced in a manner that allows specific or limited operation during playback. As such, the DVD/VCR may not respond to all operating commands. This is not a defect in the DVD/VCR. Refer to instruction notes of discs.

"✋" may appear on the TV screen during operation. A "✋" means that the operation is not permitted by the DVD/VCR or the disc.
For example, sometimes it is unable to stop the playback of copyright message of the disc when the STOP (■) button is pressed. Alternatively, the "✋" may also indicate that the feature is not available for the disc.

Notes on region numbers

The region number of this DVD/VCR is 1. If region numbers, which stand for their playable area, are printed on your DVD video disc and you do not find ① or ALL, disc playback will not be allowed by the player. (In this case, the DVD/VCR will display a message on-screen.)

On Video CDs

This DVD/VCR supports Video CDs equipped with the PBC (Version 2.0) function. (PBC is the abbreviation of Playback Control.) You can enjoy two playback variations depending on types of discs.

- **Video CD not equipped with PBC function (Version 1.1)**
  Sound and movie can be played on this DVD/VCR in the same way as an audio CD.
- **Video CD equipped with PBC function (Version 2.0)**
  In addition to operation of a Video CD not equipped with the PBC function, you can enjoy playback of interactive software with search function by using the menu displayed on the TV screen (Menu Playback). Some of the functions described in this owner's manual may not work with some discs.

Playable discs

This DVD/VCR can play the following discs.

	Disc Mark	Contents	Disc Size	Maximum playback time
DVD video discs	DVD VIDEO DVD VIDEO ™	Audio + Video (moving pictures)	12 cm	Approx. 4 hours (single sided disc)
				Approx. 8 hours (double sided disc)
			8 cm	Approx. 80 minutes (single sided disc)
				Approx. 160 minutes (double sided disc)
Video CDs	COMPACT disc DIGITAL VIDEO	Audio + Video (moving pictures)	12 cm	Approx. 74 minutes
			8 cm	Approx. 20 minutes
Audio CDs	COMPACT disc DIGITAL AUDIO	Audio	12 cm	Approx. 74 minutes
			8 cm (CD single)	Approx. 20 minutes

The following discs are also available.
- ● DVD-R/RW discs of DVD video format
- ● CD-R/CD-RW discs of CD-DA, Video CD, SVCD, MP3, WMA or JPEG format
- ● Kodak Picture CD and FUJICOLOR CD format

Some of these discs may be incompatible.

- You cannot play discs other than those listed above.
- You cannot play discs of DVD-RAM, DVD-ROM, Photo CD, etc., or non standardized discs even if they may be labeled as above.
- Some CD-R/RWs can not be played back depending on the recording conditions.
- This DVD/VCR uses the NTSC color system, and cannot play DVD video discs recorded in any other color system (PAL, SECAM, etc.).

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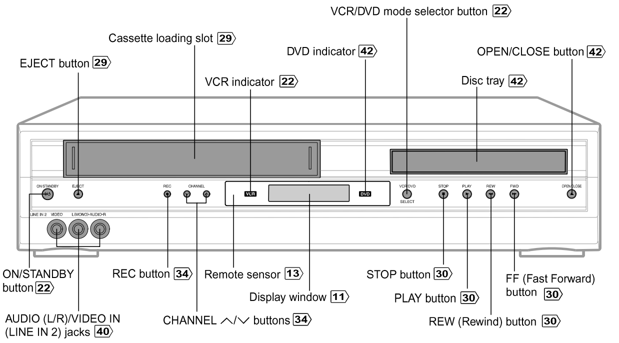
Identification of controls

See the page in ▭ for details.

Front panel


VCR/DVD mode selector button 22
Cassette loading slot 29
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OPEN/CLOSE button 42
EJECT button 29
VCR indicator 22
Disc tray 42
ON/STANDBY
EJECT
REC
CHANNEL
VCR
DVD
VCR/DVD SELECT
STOP
PLAY
REW
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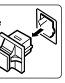
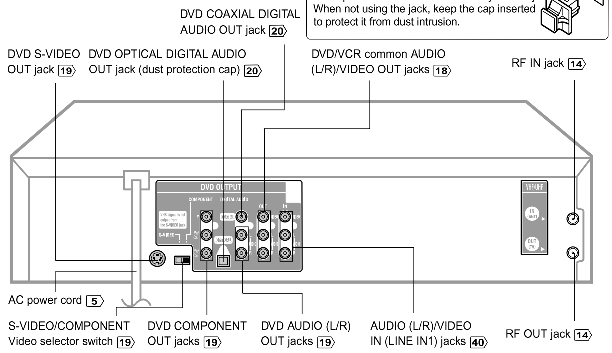
REC button 34
Remote sensor 13
STOP button 30
FF (Fast Forward) button 30
Display window 11
PLAY button 30
AUDIO (L/R)/VIDEO IN (LINE IN 2) jacks 40
CHANNEL ∧/∨ buttons 34
REW (Rewind) button 30

Rear panel

When connecting the optical digital cable, remove the cap and fit the connector into the jack firmly. When not using the jack, keep the cap inserted to protect it from dust intrusion.




DVD COAXIAL DIGITAL AUDIO OUT jack 20
DVD S-VIDEO OUT jack 19
DVD OPTICAL DIGITAL AUDIO OUT jack (dust protection cap) 20
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COMPONENT
DIGITAL AUDIO
COAXIAL
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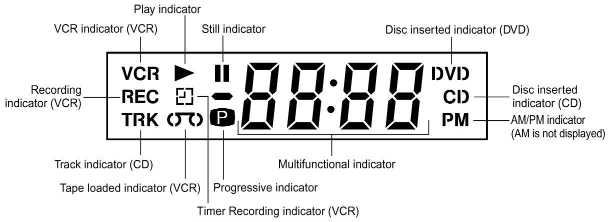
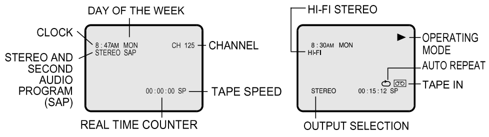
Display window


Play indicator
VCR indicator (VCR)
Still indicator
Disc inserted indicator (DVD)
Recording indicator (VCR)
VCR
REC
TRK
DVD
CD
PM
Disc inserted indicator (CD)
AM/PM indicator (AM is not displayed)
Track indicator (CD)
Multifunctional indicator
Tape loaded indicator (VCR)
Progressive indicator
Timer Recording indicator (VCR)

VCR operation status

Press **CALL** to display information on screen.
To cancel the display, press **CALL** again.

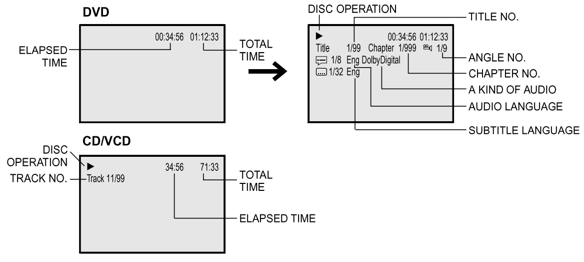

While watching TV
DAY OF THE WEEK
CLOCK
8 : 47AM MON
STEREO SAP
CH 125
CHANNEL
STEREO AND SECOND AUDIO PROGRAM (SAP)
00 : 00 : 00 SP
TAPE SPEED
REAL TIME COUNTER
While operating a tape
HI-FI STEREO
8 : 30AM MON
HI-FI
OPERATING MODE
AUTO REPEAT
TAPE IN
STEREO
00 : 15 : 12 SP
OUTPUT SELECTION

VCR Icons

Recording : ●
Rec/Pause : ●❚❚
Play : ▶
Stop : ■
Eject : ⏏

DVD/CD/VCD operation status

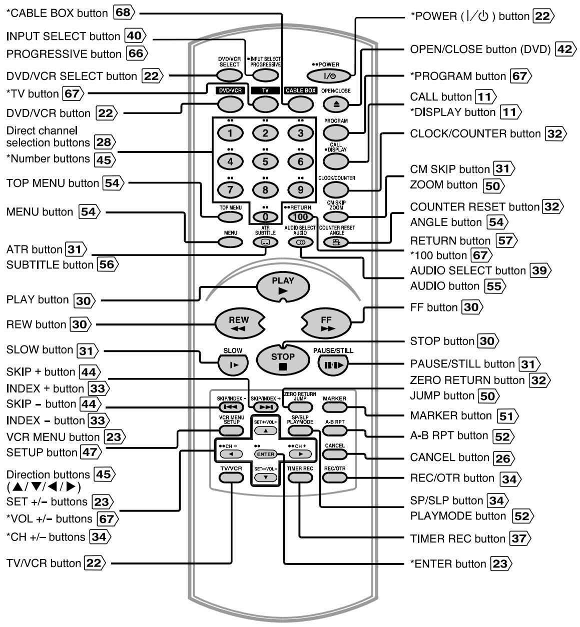
Each press of **DISPLAY**, the status display of the disc will appear on the screen and change as follows.


DVD
ELAPSED TIME
00:34:56 01:12:33
TOTAL TIME
DISC OPERATION
TITLE NO.
Title 1/99 Chapter 1/999 1/9
1/8 Eng DolbyDigital
1/32 Eng
ANGLE NO.
CHAPTER NO.
A KIND OF AUDIO
AUDIO LANGUAGE
SUBTITLE LANGUAGE
CD/VCD
DISC OPERATION
TRACK NO.
Track 11/99
34:56 71:33
TOTAL TIME
ELAPSED TIME

Identification of Controls (continued)

The instructions in this manual describe the functions on the remote control. See the page in ⟩ for details.

Remote control

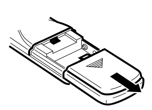

*CABLE BOX button 68
INPUT SELECT button 40
PROGRESSIVE button 66
DVD/VCR SELECT button 22
*TV button 67
DVD/VCR button 22
Direct channel selection buttons 28
*Number buttons 45
TOP MENU button 54
MENU button 54
ATR button 31
SUBTITLE button 56
PLAY button 30
REW button 30
SLOW button 31
SKIP + button 44
INDEX + button 33
SKIP – button 44
INDEX – button 33
VCR MENU button 23
SETUP button 47
Direction buttons 45 (▲/▼/◀/▶)
SET +/– buttons 23
*VOL +/– buttons 67
*CH +/– buttons 34
TV/VCR button 22
*POWER (|/⏻) button 22
OPEN/CLOSE button (DVD) 42
*PROGRAM button 67
CALL button 11
*DISPLAY button 11
CLOCK/COUNTER button 32
CM SKIP button 31
ZOOM button 50
COUNTER RESET button 32
ANGLE button 54
RETURN button 57
*100 button 67
AUDIO SELECT button 39
AUDIO button 55
FF button 30
STOP button 30
PAUSE/STILL button 31
ZERO RETURN button 32
JUMP button 50
MARKER button 51
A-B RPT button 52
CANCEL button 26
REC/OTR button 34
SP/SLP button 34
PLAYMODE button 52
TIMER REC button 37
*ENTER button 23
DVD/VCR SELECT
•INPUT SELECT PROGRESSIVE
••POWER
DVD/VCR
TV
CABLE BOX
OPEN/CLOSE
PROGRAM
CALL •DISPLAY
CLOCK/COUNTER
CM SKIP ZOOM
TOP MENU
••RETURN
100
MENU
ATR SUBTITLE
AUDIO SELECT AUDIO
COUNTER RESET ANGLE
PLAY
REW
FF
SLOW
STOP
PAUSE/STILL
SKIP/INDEX –
SKIP/INDEX +
ZERO RETURN JUMP
MARKER
VCR MENU SETUP
SET+/VOL+
SP/SLP PLAYMODE
A-B RPT
••CH –
ENTER
••CH +
CANCEL
TV/VCR
SET–/VOL–
TIMER REC
REC/OTR

***TV/Cable box/DSS® satellite receiver control buttons**
The various brands of TV/Cable box/DSS® satellite receiver listed on pages 67 and 68 can be operated with this remote control. There may be some TV/Cable box/DSS® satellite receiver models that cannot be operated with this remote control. If this is the case, use the original remote control supplied with the TV/Cable box/DSS® satellite receiver.

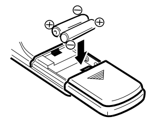
MENU button
Use the MENU button to display the menu included on many DVD video discs. To operate a menu, follow the instructions in “DVD Menu.” 54

Inserting batteries

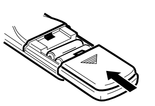
1 Slide the battery compartment cover in the direction of the arrow.



2 Install two “AAA” batteries (supplied), paying attention to the polarity diagram in the battery compartment.



3 Replace the compartment cover.



Battery precautions

The precautions below should be followed when using batteries in this device:

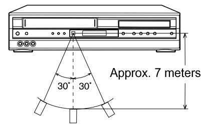
1. Use only the size and type of batteries specified.
2. Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device. To avoid a potential short circuit, insert the “–” end first.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer’s directions.)

Remote control basics

- Press **POWER (|/⏻)** to turn the DVD/VCR on or off.
- Select your desired operating mode (DVD or VCR) using **DVD/VCR SELECT.** (DVD or VCR indicator on the front panel will show you which mode is selected.)
- Press **CH +** or **CH –** to move through the channels one channel at a time.
- The **CH +/– (◀/▶)** and **SET +/– (▲/▼)** are also used to navigate on-screen menu system.
- You can directly access specific channels using **Number buttons.**
- Each press of **DVD/VCR SELECT** on the remote control, switches the screen between the VCR screen (VCR mode) and the DVD screen (DVD mode).

Operation

- Aim the remote control at the remote sensor and press control buttons to operate.
- Operate the remote control within 30° angle on either side of the remote sensor, up to a distance of Approx. 7 meters.


Approx. 7 meters
30˚
30˚

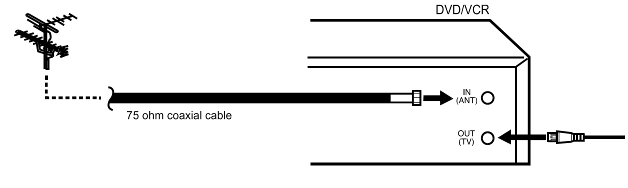
Antenna connections

If you are using an antenna system, follow these instructions. If you are a Cable TV subscriber, skip ahead to page 16 for the proper connections.

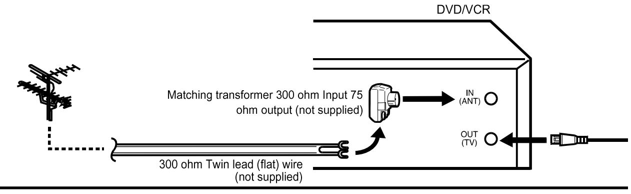
Antenna to DVD/VCR connection

The DVD/VCR must be connected “between” the antenna and the TV. First, disconnect the antenna from the TV and connect it to the DVD/VCR. Then connect the DVD/VCR to the TV. Below are 3 common methods of connecting an antenna system to a DVD/VCR. Find the type of antenna system you are using and follow the connection diagram.

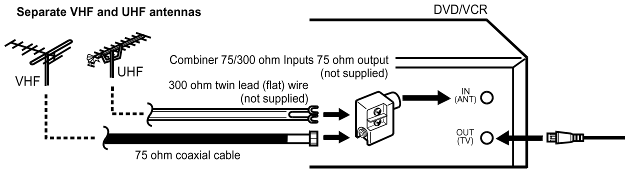
1 **Combination VHF/UHF antenna with 75 ohm coaxial cable**


DVD/VCR
IN (ANT)
OUT (TV)
75 ohm coaxial cable

2 **Combination VHF/UHF antenna with 300 ohm twin lead (flat) wire**


DVD/VCR
Matching transformer 300 ohm Input 75 ohm output (not supplied)
IN (ANT)
OUT (TV)
300 ohm Twin lead (flat) wire (not supplied)

3 **Separate VHF and UHF antennas**


DVD/VCR
VHF
UHF
Combiner 75/300 ohm Inputs 75 ohm output (not supplied)
300 ohm twin lead (flat) wire (not supplied)
IN (ANT)
OUT (TV)
75 ohm coaxial cable

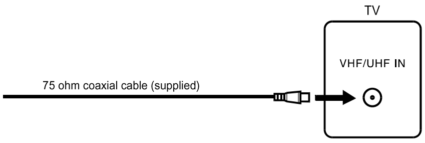
Note: If both VHF and UHF antennas have 300 ohm twin lead (flat) wires, use a combiner having two 300 ohm inputs and one 75 ohm output.

Notes:
- A clear picture will not be obtained by the DVD/VCR unless the antenna signal is good. Connect the antenna to the DVD/VCR properly.
- For better quality recording, an indoor antenna or a telescopic antenna is not recommended. The use of an outdoor type antenna is required.
- If you are not sure about the connection, please refer to qualified service personnel.

DVD/VCR to TV connection

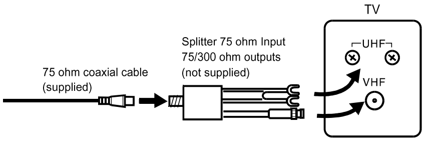
After you have connected the antenna to the DVD/VCR, you must connect the DVD/VCR to the TV.
Below are 3 common methods of connecting your DVD/VCR to a TV. Find the type of TV you are using and follow the connection diagram.

This DVD/VCR has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the DVD/VCR to the TV for VHF and UHF reception.


TV
VHF/UHF IN
75 ohm coaxial cable (supplied)

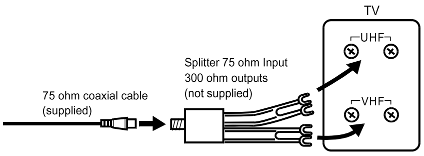
Note: If a VHF or UHF antenna is used, set the TV/CABLE menu option to the “TV” mode.

TV with single 75 ohm VHF/UHF antenna input


TV
Splitter 75 ohm Input 75/300 ohm outputs (not supplied)
75 ohm coaxial cable (supplied)
UHF
VHF

Note: If a VHF or UHF antenna is used, set the TV/CABLE menu option to the “TV” mode.

TV with 300 ohm UHF and 75 ohm VHF antenna inputs


TV
Splitter 75 ohm Input 300 ohm outputs (not supplied)
75 ohm coaxial cable (supplied)
UHF
VHF

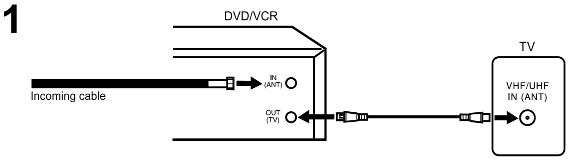
Note: If a VHF or UHF antenna is used, set the TV/CABLE menu option to the “TV” mode.

TV with 300 ohm UHF and 300 ohm VHF antenna inputs

Cable TV connections

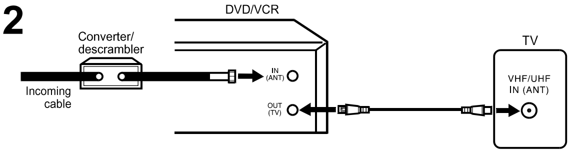
Many cable companies offer services permitting reception of extra channels including pay or subscription channels. This DVD/VCR has an extended tuning range and can be tuned to most cable channels without using a cable company supplied converter box, except for those premium channels which are intentionally scrambled. If you subscribe to a premium channel which is scrambled, you must have a descrambler box for proper reception.

1


DVD/VCR
TV
Incoming cable
IN (ANT)
OUT (TV)
VHF/UHF IN (ANT)

Allows:
- ⋆ Recording of nonscrambled channels.
- ⋆ Use of the programmable timer.
- ⋆ Recording of one channel while watching another.

2

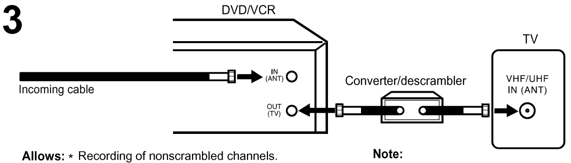

DVD/VCR
Converter/ descrambler
TV
Incoming cable
IN (ANT)
OUT (TV)
VHF/UHF IN (ANT)

Allows:
- ⋆ Recording of channels through the converter box (scrambled and unscrambled).
- ⋆ Using the programmable timer to record only the channel selected at the converter box.

Prevents:
- ⋆ Recording one channel while watching another.
- ⋆ Using the DVD/VCR tuner to select channels.

Note:
To record from converter/descrambler, DVD/VCR tuner must be tuned to the converter output channel, usually channel 3 or 4.

3


DVD/VCR
TV
Incoming cable
IN (ANT)
OUT (TV)
Converter/descrambler
VHF/UHF IN (ANT)

Allows:
- ⋆ Recording of nonscrambled channels.
- ⋆ Use of the programmable timer.
- ⋆ Recording an unscrambled channel while watching any channel selected at the converter box.

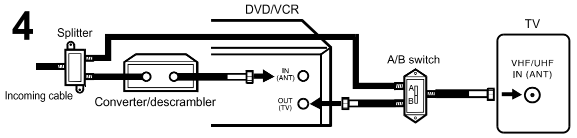
Prevents: Recording scrambled channels.

Note:
If you are playing a tape or using the tuner built into the DVD/VCR, the converter must be set to the video channel output of the DVD/VCR (either 3 or 4).

Note: Whenever a converter/descrambler box is placed before the DVD/VCR, you must tune the DVD/VCR to the output of the converter/descrambler box, usually channel 3 or 4.

IMPORTANT: Make sure the TV/CABLE menu option is set to the “CABLE” mode.
This DVD/VCR cannot receive scrambled programs since it does not contain a descrambler. In order to receive scrambled programs, your existing descrambler must be used. Descrambler boxes are available from cable companies. Consult your local cable company for more information concerning connection to their descrambler equipment. There are many ways to connect your DVD/VCR to a cable system. Below are six common methods of connection.

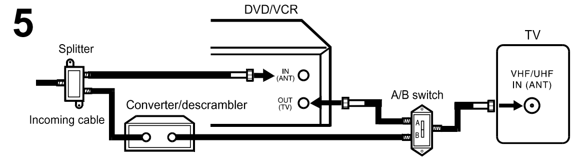
4


DVD/VCR
TV
Splitter
A/B switch
Incoming cable
Converter/descrambler
IN (ANT)
OUT (TV)
VHF/UHF IN (ANT)
A
B

Allows:
- ⋆ Recording of one channel while watching another.
- ⋆ Using the programmable timer to record only the channel selected at the converter box.
- ⋆ Recording of all channels through the converter box.

Prevents:
- ⋆ Watching scrambled channels while recording another channel.
- ⋆ Using the DVD/VCR tuner to select channels.

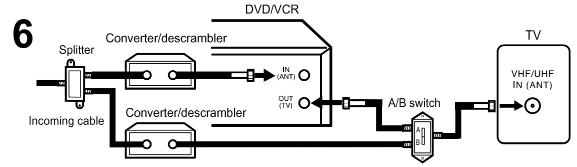
5


DVD/VCR
TV
Splitter
Converter/descrambler
Incoming cable
IN (ANT)
OUT (TV)
A/B switch
VHF/UHF IN (ANT)
A
B

Allows:
- ⋆ Recording of nonscrambled channels.
- ⋆ Recording of one channel while watching another.
- ⋆ Watching premium channels through the converter while recording nonscrambled channels.
- ⋆ Using the programmable timer.

Prevents: Recording scrambled channels.

6


DVD/VCR
TV
Converter/descrambler
Splitter
Incoming cable
Converter/descrambler
IN (ANT)
OUT (TV)
A/B switch
VHF/UHF IN (ANT)
A
B

Allows:
- ⋆ Recording of all channels through the converter box.
- ⋆ Recording a scrambled or unscrambled channel while watching another (scrambled or unscrambled) channel.
- ⋆ Using the programmable timer to record only the channel selected at the converter box.

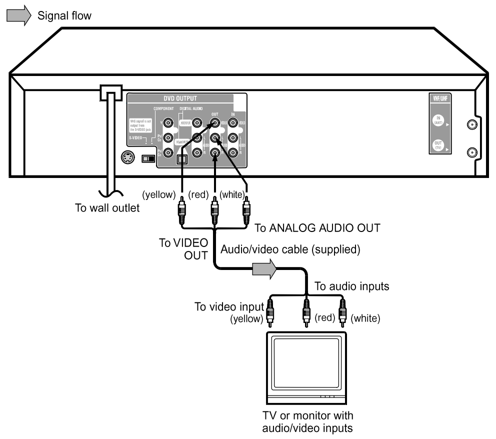
Prevents: Using the DVD/VCR tuner to select channels.

Connecting to a TV

Connect the DVD/VCR to your TV.

Note: This method transports VHS and DVD-video signals. For enhanced DVD-video performance, we recommend you also connect the S-video or ColorStream® component video outputs to your TV/monitor 19.

Connecting to a TV


Signal flow
To wall outlet
(yellow)
(red)
(white)
To ANALOG AUDIO OUT
To VIDEO OUT
Audio/video cable (supplied)
To audio inputs
To video input
(yellow)
(red)
(white)
TV or monitor with audio/video inputs

Notes:
- Refer to the owner’s manual of the connected TV as well.
- When you connect the DVD/VCR to your TV, be sure to turn off the power and unplug both units from the wall outlet before making any connections.
- If your television set has one audio input, connect the left and right audio outputs of the DVD/VCR to a Y cable adapter (not supplied) and then connect to your TV.
- Connect the DVD/VCR directly to your TV. If you connect the DVD/VCR to a VCR, TV/VCR combination or video selector, the playback picture may be distorted as DVD video discs are copy protected.

S-video output

An S-Video connection is superior to Video (Yellow) output. Use this method for DVD playback when the connected television has S-Video input, and does not have component video inputs.

Component video outputs

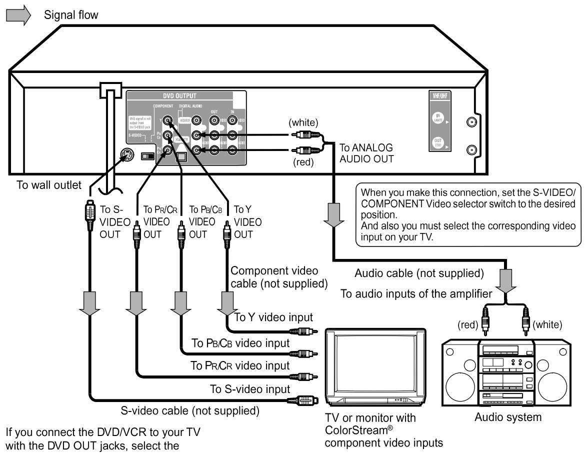
■ PROGRESSIVE outputs
Some TVs or monitors are equipped with component video inputs that are capable of reproducing a progressively scanned video signal. Connecting to these inputs allows you to view the highest quality pictures with less flicker.

■ INTERLACED outputs
Some TVs or monitors are equipped with component video inputs. Connecting to these inputs allows you to enjoy the highest quality DVD picture playback.

Notes:
- Actual labels for component video inputs may vary depending on the TV manufacturer. (ex. Y, R-Y, B-Y or Y, C_B, C_R)
- In some TVs or monitors, the color levels of the playback picture may be reduced slightly or the tint may change. In such a case, adjust the TV or monitor for optimum performance.

Connecting to an audio system and TV equipped with S-video input/component video inputs

Note: The S-video output and component video output transports the DVD-video signal exclusively and will deliver enhanced DVD video picture performance.


Signal flow
(white)
(red)
To ANALOG AUDIO OUT
To wall outlet
To S-VIDEO OUT
To P_R/C_R VIDEO OUT
To P_B/C_B VIDEO OUT
To Y VIDEO OUT
Component video cable (not supplied)
Audio cable (not supplied)
To audio inputs of the amplifier
To Y video input
To P_B/C_B video input
To P_R/C_R video input
To S-video input
(red)
(white)
S-video cable (not supplied)
TV or monitor with ColorStream® component video inputs
Audio system

When you make this connection, set the S-VIDEO/COMPONENT Video selector switch to the desired position.
And also you must select the corresponding video input on your TV.

If you connect the DVD/VCR to your TV with the DVD OUT jacks, select the corresponding video input on your television to watch DVD video discs.

Notes:
- Refer to the owner’s manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- If you place the DVD/VCR near a tuner or radio, the radio broadcast sound might be distorted. In this case, place the DVD/VCR away from the tuner and radio.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver’s volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR’s power cord. If you leave the amplifier power on, the speakers may be damaged.
- **When connecting to a TV using the Video or S-video jack, make sure that the Progressive indicator “P” on the display window is not lit. If it is lit, the Video and S-video outputs do not feed the correct signals and you cannot see any picture. To turn off the Progressive indicator, select PROGRESSIVE scan Off 66.**

Connecting to optional equipment

You can enjoy high quality dynamic sounds of DVD video discs or audio CDs by connecting the DVD/VCR to optional audio equipment.

For connection to your TV, see “Connecting to a TV” 18 19.

- This section uses the following reference mark.

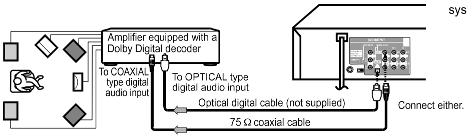
▨ : Front speaker
☐ : Rear speaker
◫ : Sub woofer
▯ : Center speaker
⇨ : Signal flow

Connecting to an amplifier equipped with a Dolby Digital decoder

Dolby Digital
Dolby Digital is the surround sound technology used in theaters showing the latest movies, and is now available to reproduce this realistic effect in the home. You can enjoy motion picture and live concert DVD video discs with this dynamic realistic sound by connecting the DVD/VCR to a 6 channel amplifier equipped with a Dolby Digital decoder or Dolby Digital processor. If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1-channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark.

Manufactured under license from Dolby Laboratories. “Dolby” “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

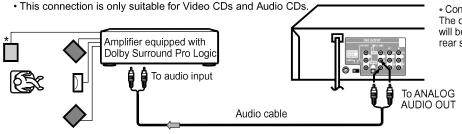
- Use DVD video discs encoded via the Dolby Digital recording system.


Amplifier equipped with a Dolby Digital decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable (not supplied)
75 Ω coaxial cable
Connect either.

Connecting to an amplifier equipped with Dolby Surround Pro Logic

Dolby Surround Pro Logic
You can enjoy the dynamic realistic sound of Dolby Surround Pro Logic by connecting an amplifier and speaker system (right and left front speakers, a center speaker, and one or two rear speakers).

- With an amplifier equipped with Dolby Digital
  Connect the equipment the same way as described in “Connecting to an amplifier equipped with a Dolby Digital decoder.”
  Refer to that amplifier’s owner’s manual and set the amplifier so you can enjoy Dolby Surround Pro Logic sound.
- With an amplifier not equipped with Dolby Digital
  Connect the equipment as follows.
  - This connection is only suitable for Video CDs and Audio CDs.


*
Amplifier equipped with Dolby Surround Pro Logic
To audio input
Audio cable
To ANALOG AUDIO OUT

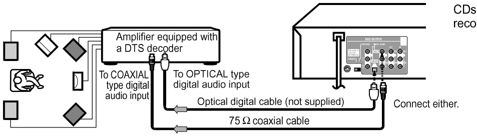
* Connect one or two rear speakers.
The output sound from the rear speakers will be monaural even if you connect two rear speakers.

Connecting to an amplifier equipped with a DTS decoder

Digital Theater Systems (DTS)
DTS is a high quality surround technology used in theaters and now available for home use, on DVD video discs or audio CDs.
If you have a DTS decoder or processor, you can obtain the full benefit of 5.1 channel DTS encoded sound tracks on DVD video discs or audio CDs.

“DTS” and “DTS Digital Out” are trademarks of Digital Theater Systems, Inc.

- Use DVD video discs or audio CDs encoded via the DTS recording system.

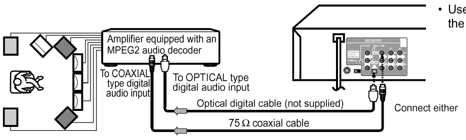

Amplifier equipped with a DTS decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable (not supplied)
75 Ω coaxial cable
Connect either.

Warning
When playing DTS-encoded discs (audio CDs), excessive noise may be output from the analog stereo jacks. To avoid possible damage to the audio system, you should take proper precautions when the ANALOG AUDIO OUT (L/R) jacks of the DVD/VCR are connected to an amplification system. (Do not leave the ANALOG AUDIO OUT (L/R) wires dangling.) To enjoy DTS Digital Surround™ playback, an external 5.1 channel DTS Digital Surround™ decoder system must be connected to the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.

Connecting to an amplifier equipped with an MPEG2 audio decoder

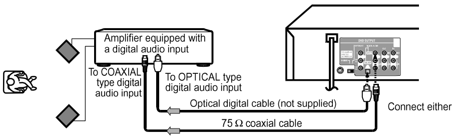
MPEG2 sound
You can enjoy motion picture and live concert DVD video discs with dynamic realistic sound by connecting an amplifier equipped with an MPEG2 audio decoder or MPEG2 audio processor.

- Use DVD video discs encoded via the MPEG2 recording system.


Amplifier equipped with an MPEG2 audio decoder
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable (not supplied)
75 Ω coaxial cable
Connect either

Connecting to an amplifier equipped with a digital audio input

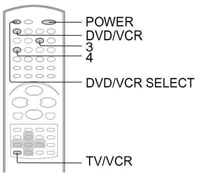
2 channel digital stereo
You can enjoy the dynamic sound of 2 channel digital stereo by connecting an amplifier equipped with a digital audio input and speaker system (right and left front speakers).


Amplifier equipped with a digital audio input
To COAXIAL type digital audio input
To OPTICAL type digital audio input
Optical digital cable (not supplied)
75 Ω coaxial cable
Connect either

Notes:
- DO NOT connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the AC-3 RF input of a Dolby Digital Receiver. This input on your A/V Receiver is reserved for Laserdisc use only and is incompatible with the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR.
- Connect the BITSTREAM/PCM AUDIO OUT jack of the DVD/VCR to the “OPTICAL” or “COAXIAL” input of a Receiver or Processor.
- Refer to the owner’s manual of the connected equipment as well.
- When you connect the DVD/VCR to other equipment, be sure to turn off the power and unplug all of the equipment from the wall outlet before making any connections.
- The output sound of the DVD/VCR has a wide dynamic range. Be sure to adjust the receiver’s volume to a moderate listening level. Otherwise, the speakers may be damaged by a sudden high volume sound.
- Turn off the amplifier before you connect or disconnect the DVD/VCR’s power cord. If you leave the amplifier power on, the speakers may be damaged.

Setting the video channel

When a TV is connected with the 75 ohm coaxial cable only.
To view playback of a recorded tape or DVD disc, or to watch a program selected by the VCR's channel selector, the TV must be set to channel 3 or 4 (video channel).


POWER
DVD/VCR
3
4
DVD/VCR SELECT
TV/VCR

Setting the video channel

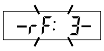
1 **Press DVD/VCR to operate the DVD/VCR.**

DVD/VCR

2 **Press and hold 3 or 4 on the remote for 3 seconds in standby mode.**

3 OR 4

The video channel will start to flash for 3 seconds in the display window.



3 **Press POWER to turn on the DVD/VCR.**

POWER

4 **Press DVD/VCR SELECT to select the VCR mode.**

DVD/VCR SELECT

The VCR indicator on the front panel will light.

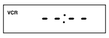
VCR

5 **Turn ON the TV and set to CH 3 or 4 to correspond with the channel selected in step 2.**

6 **Press TV/VCR to select the VCR position.**

TV/VCR

The VCR indicator will appear in the display window.



7 Select any channel to receive a TV station in your area. The channel number will appear on the screen for about 4 seconds.

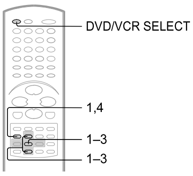
■ For a push-button TV tuner

If CH 3 or 4 corresponding to the video channel cannot be tuned on your TV, proceed as follows: set the VCR 3/4 channel selector and the TV to CH 3 or 4, play back a prerecorded tape and tune the TV to receive a sharp color picture from the video cassette recorder. Refer to your TV owner's manual for details.

Note:
If the unit does not operate properly, or No key operation (by the unit and/or the remote control): Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again.

Setting the language

You can choose from three different languages (English, French and Spanish) for the on-screen displays.


DVD/VCR SELECT
1,4
1–3
1–3

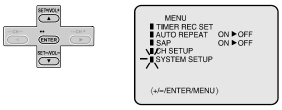
Setting the language

Preparation:
- Turn ON the TV and select to the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)

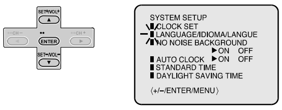
1 **Press VCR MENU.**

VCR MENU SETUP

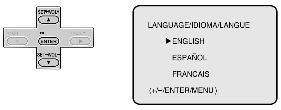
The VCR menu screen will appear.
Press **SET +** or **–** to select “SYSTEM SETUP”, then press **ENTER.**
If you use the unit for the first time and press **VCR MENU**, instead of the main menu screen the “SYSTEM SETUP” menu screen in step **2** may appear.


SET+/VOL+
CH–
ENTER
CH+
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
〈+/–/ENTER/MENU〉

2 **Press SET + or – to select “LANGUAGE”, then press ENTER.**


SET+/VOL+
CH–
ENTER
CH+
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
〈+/–/ENTER/MENU〉

3 **Press SET + or – to select the desired language: English (ENGLISH), Spanish (ESPAÑOL) or French (FRANCAIS), then press ENTER.**


SET+/VOL+
CH–
ENTER
CH+
SET–/VOL–
LANGUAGE/IDIOMA/LANGUE
▶ENGLISH
ESPAÑOL
FRANCAIS
〈+/–/ENTER/MENU〉

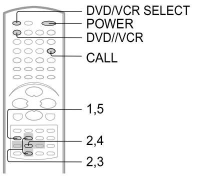
4 **Press VCR MENU until the MENU screen is cleared.**

VCR MENU SETUP

Notes:
- Both the VCR and the DVD have their own player menus 57.
- If no buttons are pressed for more than 60 seconds, the VCR MENU screen will return to normal TV-operation automatically.

Clock setting

The AUTO CLOCK function will automatically set the built-in clock (Month, Day, Year and Time) when the DVD/VCR is connected to an Antenna or Cable system and it is turned off. The DVD/VCR searches for a station in your area containing the necessary AUTO CLOCK setting signals. Once received, it will take approximately 4 minutes for the clock to set itself automatically.


DVD/VCR SELECT
POWER
DVD//VCR
CALL
1,5
2,4
2,3

AUTO CLOCK setting

Preparation:

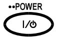
- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR** to operate the DVD/VCR.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)

1 **Connect the Antenna or Cable system.**

- If you use a cable box, turn it on.

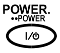
2 **Plug the AC Power cord to the AC outlet.**

3 **Make sure the DVD/VCR is turned off.**



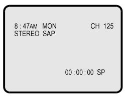
- If you press **POWER**, the Auto Clock set is not programmed.

4 **Wait at least three minutes and press POWER.**



5 **Press CALL to check the clock setting on the on screen display.**

CALL
• DISPLAY


8 : 47AM MON
CH 125
STEREO SAP
00 : 00 : 00 SP

6 **If the clock is not set, check the antenna condition. The AUTO CLOCK may not function properly if the reception condition is not good.**

AUTO CLOCK adjustment

The auto clock adjustment will be updated at 6:00 AM, 12:00 PM and 6:00 PM everyday when the DVD/VCR turned off.

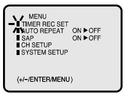
- If you use a cable box and you want AUTO CLOCK adjustment to be performed, the cable box must be left on.
- The AUTO CLOCK adjustment is not effective when there is a difference of more than 5 minutes exists between the built-in clock time and the actual time.

To set AUTO CLOCK to off

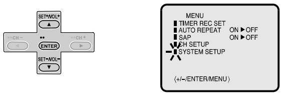
When shipped from factory the AUTO CLOCK is set to “ON”. But if you do not want AUTO CLOCK setting:

1 **Press VCR MENU.**

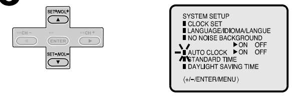
VCR MENU
SETUP


MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

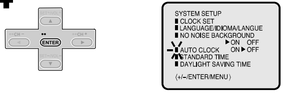
2 **Press SET + or – to select “SYSTEM SETUP”, then press ENTER.**


SET+/VOL+
CH –
ENTER
CH +
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

3 **Press SET + or – to select “AUTO CLOCK”.**


SET+/VOL+
ENTER
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

4 **Press ENTER to select “OFF”.**


ENTER
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ON ▶OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

5 **Press VCR MENU repeatedly to return to the normal screen.**

VCR MENU
SETUP

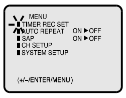
- When the AUTO CLOCK is set to “OFF”, the AUTO CLOCK adjustment does not function.
- Set the clock manually 26⟩.

To set STANDARD TIME

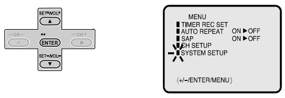
In the rare event that you live within broadcast range of two stations in two different time zones, the DVD/VCR may recognize the wrong station for the AUTO CLOCK setting. To correct the situation:

1 **Press VCR MENU.**

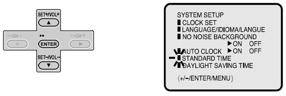
VCR MENU
SETUP


MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

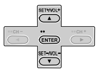
2 **Press SET + or – to select “SYSTEM SETUP”, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

3 **Press SET + or – to select “STANDARD TIME”, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

4 **Press SET + or – to select your time zone, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–

ATLANTIC : GMT–4hours
EASTERN : GMT–5hours
CENTRAL : GMT–6hours
MOUNTAIN : GMT–7hours
PACIFIC : GMT–8hours
ALASKA : GMT–9hours
HAWAII : GMT–10hours
AUTO : AUTO SET
(GMT: Greenwich Mean Time)

5 **Press VCR MENU twice to return to the normal screen.**

VCR MENU
SETUP

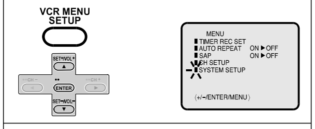
Notes:

- To be able to select the standard time, the clock must first be set by AUTO CLOCK once.
- If you live in Newfoundland and the AUTO CLOCK does not function properly, set the AUTO CLOCK menu option to “OFF” and set the clock manually.

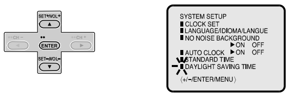
To set DAYLIGHT SAVING TIME

You can set the DAYLIGHT SAVING TIME automatically or manually.

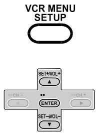
1 **Press VCR MENU.**
Press SET + or – to select “SYSTEM SETUP”, then press ENTER.


VCR MENU
SETUP
SET+/VOL+
ENTER
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

2 **Press SET + or – to select “DAYLIGHT SAVING TIME”, then press ENTER.**

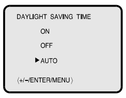

SET+/VOL+
ENTER
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

3 **Press SET + or – to select one of the options, then press ENTER. Press VCR MENU until the MENU screen is cleared.**


VCR MENU
SETUP
SET+/VOL+
ENTER
SET–/VOL–

ON:	for manual setting (forward one hour)
OFF:	for manual setting (back one hour)
AUTO:	for automatic setting (read XDS in the signal)

When you want to set the DAYLIGHT SAVING TIME manually, on the first Sunday in April you set to “ON”, and on the last Sunday in October you set to “OFF”.

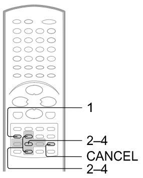

DAYLIGHT SAVING TIME
ON
OFF
▶AUTO
⟨+/–/ENTER/MENU⟩

Notes:

- When shipped from factory, the DAYLIGHT SAVING TIME is set to “AUTO” position.
- When the clock is not set, DAYLIGHT SAVING TIME setting is not available.
- When there is no DAYLIGHT SAVING TIME in your area, always select “OFF” position in step 3.

Clock setting (continued)

If the AUTO CLOCK process did not set the date and time correctly, you must set them manually for timer recording and DAYLIGHT SAVING TIME.


1
2–4
CANCEL
2–4

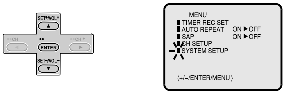
Manual clock setting

EXAMPLE: Setting the clock to “8:30 AM” October, 30 (SAT), 2004.

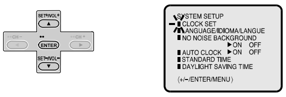
1 **Press VCR MENU.**

VCR MENU
SETUP

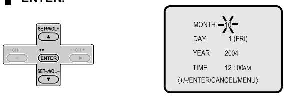
2 **Press SET + or – to select “SYSTEM SETUP”, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

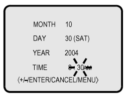
3 **Press SET + or – to select “CLOCK SET”, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND ▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
⟨+/–/ENTER/MENU⟩

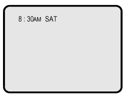
4 **Press SET + or – to set the month, then press ENTER.**


SET+/VOL+
ENTER
SET–/VOL–
MONTH 10
DAY 1 (FRI)
YEAR 2004
TIME 12 : 00AM
⟨+/–/ENTER/CANCEL/MENU⟩

5 **Set the day, year and time as in step 4.**


MONTH 10
DAY 30 (SAT)
YEAR 2004
TIME 8 : 30AM
⟨+/–/ENTER/CANCEL/MENU⟩

6 **After setting the clock, date and time starts functioning automatically.**

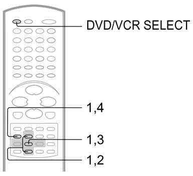


■**To make corrections any time during the process**
Press **CANCEL** repeatedly until the item you want to change blinks, then press **SET +** or **–.**

Note:
After a power failure or disconnection of the power, the timer settings will be lost. In this case, reset the present time.

Tuner setting

This DVD/VCR is equipped with a channel memory feature which allows channels to skip up or down to the next channel set into memory, skipping over unwanted channels. Before selecting channels, they must be programmed into the DVD/VCR’s memory. In addition to normal VHF and UHF channels, this DVD/VCR can receive up to 113 Cable TV channels. To use this DVD/VCR with an antenna, set the TV/CABLE menu option to the TV mode. When shipped from the factory, this menu option is in the CABLE mode.

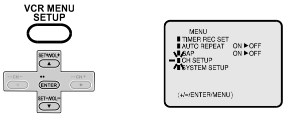

DVD/VCR SELECT
1,4
1,3
1,2

TV/CABLE selection

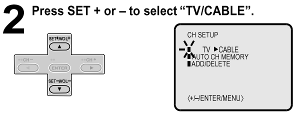
Preparation:

- Turn ON the TV and select to the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)

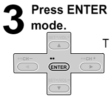
1 **Press VCR MENU. Press SET + or – to select “CH SETUP”, then press ENTER.**


VCR MENU
SETUP
SET+/VOL+
ENTER
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
⟨+/–/ENTER/MENU⟩

2 **Press SET + or – to select “TV/CABLE”.**

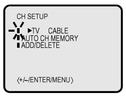

SET+/VOL+
SET–/VOL–
CH SETUP
TV ▶CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

3 **Press ENTER to select the TV or CABLE mode.**



The arrow indicates the selected mode.

TV - VHF/UHF channels
CABLE - Cable TV channels


CH SETUP
▶TV CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

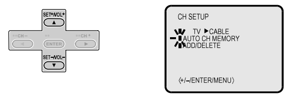
4 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

Note:
You can’t select “CH SETUP” if you set the channel to “L1” or “L2”.

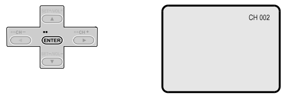
Setting channels automatically

1 **Repeat left step 1 and press SET + or – to select “AUTO CH MEMORY”.**

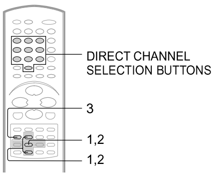

SET+/VOL+
SET–/VOL–
CH SETUP
TV ▶CABLE
AUTO CH MEMORY
ADD/DELETE
⟨+/–/ENTER/MENU⟩

2 **Press ENTER.**

Auto tuning will begin. The channel display will count up and when finished, the screen returns to normal.

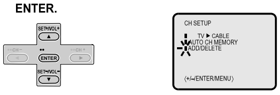

ENTER
CH 002

Tuner setting (continued)


DIRECT CHANNEL SELECTION BUTTONS
3
1,2
1,2

To ADD/DELETE channels

1 **Repeat the step 1 on page 27. Then press SET + or – to select the “ADD/DELETE” and press ENTER.**

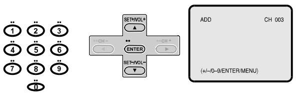

SET+/VOL+
CH –
ENTER
CH +
SET–/VOL–
CH SETUP
TV ▶ CABLE
AUTO CH MEMORY
ADD/DELETE
(+/–/ENTER/MENU)

2 **To Add or Delete desired channels**

1 Press **Direct channel selection buttons** or **SET +** or **–** to select a channel number you want to add or delete.

2 **To add channels**
Press **ENTER** until “ADD” appears on the screen.
To delete channels
Press **ENTER** until “DELETE” appears on the screen. The channel number will blink.

3 Repeat 1 to 2 to add or delete other channel.


1
2
3
4
5
6
7
8
9
0
SET+/VOL+
CH –
ENTER
CH +
SET–/VOL–
ADD
CH 003
(+/–/0–9/ENTER/MENU)

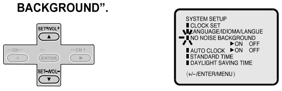
3 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

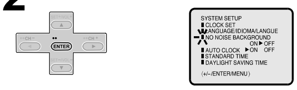
Noise elimination

When you don't want to receive a weak signal broadcast, a Blue back screen can be obtained by selecting the NO NOISE BACKGROUND “ON”. When the unit is shipped from the factory, the NO NOISE BACKGROUND is set to “ON”.

1 **Repeat the steps 1~2 on page 26 and press SET + or – to select “NO NOISE BACKGROUND”.**


SET+/VOL+
CH –
ENTER
CH +
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND
▶ON OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
(+/–/ENTER/MENU)

2 **Press ENTER to select “ON” or “OFF” position.**

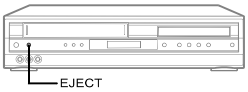

SET+/VOL+
CH –
ENTER
CH +
SET–/VOL–
SYSTEM SETUP
CLOCK SET
LANGUAGE/IDIOMA/LANGUE
NO NOISE BACKGROUND
ON ▶OFF
AUTO CLOCK ▶ON OFF
STANDARD TIME
DAYLIGHT SAVING TIME
(+/–/ENTER/MENU)

3 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

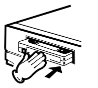
Loading and unloading a cassette tape

Use only video cassette tapes marked VHS and S-VHS.

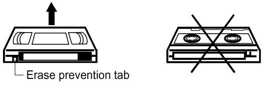


Loading

Push the center of the tape until it is automatically inserted.



Insert the cassette tape with its labeled side facing up and the erase prevention tab positioned at your left. An inverted cassette tape cannot be inserted.

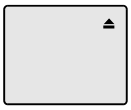

Erase prevention tab

Automatic power ON
When you insert a cassette tape the DVD/VCR power will turn ON automatically.

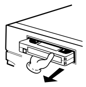
Automatic playback
When loading a cassette tape without an erase prevention tab, playback will start automatically.

Unloading

1 Press **EJECT** on the front panel.



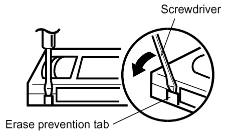
2 Remove the cassette tape.



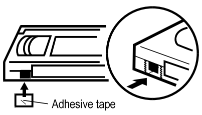
Automatic tape eject
This DVD/VCR will automatically rewind the tape when the tape has ended. Once the tape is rewound to its beginning, the cassette tape will be ejected automatically.

To prevent accidental erasure

To prevent accidental erasure
Remove the erase prevention tab with a screwdriver.


Screwdriver
Erase prevention tab

To record again
Cover the hole with a piece of adhesive tape.


Adhesive tape

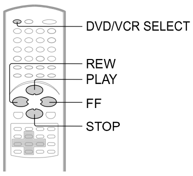
Tape speed and maximum recording time

Tape Speed	Video cassette tape				
	T-160	T-120	T-90	T-60	T-30
SP (Standard Play)	2-2/3 hours	2 hours	1-1/2 hours	1 hour	30 minutes
SLP (Super Long Play)	8 hours	6 hours	4-1/2 hours	3 hours	1-1/2 hours

---

Cassette tape playback

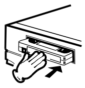
To play a prerecorded tape.


DVD/VCR SELECT
REW
PLAY
FF
STOP

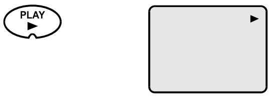
Playback

Preparation:
- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light).

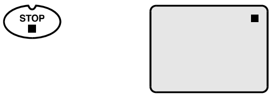
1 **Load a prerecorded tape**
(When loading a cassette tape without the erase prevention tab, playback will start automatically).



2 **To start playback**
Press **PLAY.**
Playback will start. “ ▶ ” will appear on the screen for about 4 seconds.



To stop playback
Press **STOP** once.
The tape will stop but remain fully loaded and ready to play.
“■” will appear on the screen for about 4 seconds.



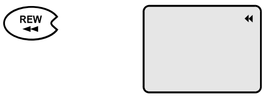
Notes:
- This VCR selects the playback tape speed SP, LP or SLP automatically.
- The Cassette tape and DVD disc can be played back simultaneously. If you press **DVD/VCR SELECT**, the tape playback and DVD playback alternate with each other on the screen (via CH3, 4 or video connection).

Rewind or forward the tape

Stop the playback or recording via **STOP** on remote.

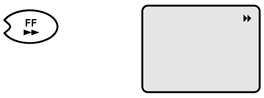
To rewind the tape:

Press **REW.**



To forward the tape:

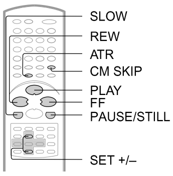
Press **FF.**



To discontinue the tape-winding, press **STOP**. To switch to playback directly (without **STOP**), press **PLAY.**

■ Forward/Reverse picture search mode
When the tape is being winded, you can switch to picture search mode (see next page). To do this, press **REW** or **FF** and hold it down. The unit will resume the tape advance or rewinding as soon as the button is released.

Special playback


SLOW
REW
ATR
CM SKIP
PLAY
FF
PAUSE/STILL
SET +/–

Picture search

Reverse picture search function
Press **REW** once or twice during playback.

Forward picture search function
Press **FF** once or twice during playback.
To return to playback, press **PLAY.**

SPEED SEARCH TIMES

TAPE SPEED	PICTURE SEARCH SPEED	
	PRESS ONCE	PRESS TWICE
SP (Standard Play)	3 X	5 X
LP (Long Play)	7 X	9 X
SLP (Super Long Play)	9 X	15 X

Still picture

Press **PAUSE/STILL** during playback.
To resume normal playback, press **PLAY** or **PAUSE/STILL.**

Slow motion

During playback press **SLOW.**
To return to playback, press **PLAY** or **SLOW.**

■ Slow tracking and vertical lock adjustment
If noise bars appear in the picture during slow motion, press the **SET + /–** to reduce the noise bars.
If the still picture jitters excessively, press **SET +/–** to stabilize the still picture.

Frame by frame picture

Press **PAUSE/STILL** during playback.
Press **SLOW** repeatedly: The picture advances frame by frame.
To return to playback, press **PLAY** or **PAUSE/STILL.**

CM skip

Press **CM SKIP** during playback. The DVD/VCR will search forward through approximately 30 seconds of the tape (e.g. unwanted commercial time) for each press of **CM SKIP** (maximum six presses) and then resume normal playback.

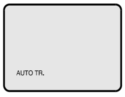
For example : 1 press: 30 seconds of tape
2 press: 60 seconds of tape
3 press: 90 seconds of tape

Adjusting tracking condition

■ Automatic tracking adjustment
Whenever you insert a tape and start playback, the automatic tracking feature continuously analyzes the signal to enable optimum picture quality during playback.

■ Manual tracking adjustment
If automatic tracking cannot eliminate noises well during playback, press **SET +/–** to eliminate the noise. “MANUAL TR.” will appear on the screen. Press it briefly for a fine adjustment, or press and hold for a coarse adjustment.

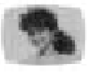
Press **ATR** to reactivate automatic tracking again. “AUTO TR.” will appear on the screen.

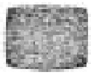


Notes:
- The audio output is muted during SPEED SEARCH, STILL, FRAME ADVANCE and SLOW MOTION.
- During picture search mode there will be noise bars. This is not a defect.
- Playback will commence after approx. 5 minutes to protect the video tape against excessive wear during pause mode.

Video head cleaning

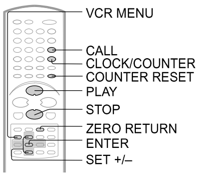
Video head clogging
■ The video heads are the means by which the DVD/VCR reads the picture from the tape during playback. In the unlikely event that the heads become dirty enough to be clogged, no picture will be displayed. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the DVD/VCR checked and cleaned by qualified service personnel.


Good Picture


Snowy Picture

Notes:
- DO NOT ATTEMPT TO CLEAN THE VIDEO HEADS OR SERVICE THE UNIT BY REMOVING THE REAR COVER.
- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head clogging, use only good quality VHS tapes. Discard worn out tapes.

Convenience function

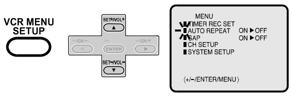

VCR MENU
CALL
CLOCK/COUNTER
COUNTER RESET
PLAY
STOP
ZERO RETURN
ENTER
SET +/–

Repeat playback

The entire video tape will play until its end. The tape will automatically rewind to the beginning and the playback will be repeated.

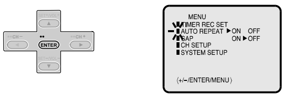
1 **Press VCR MENU.**

Press **SET +** or **–** to select "AUTO REPEAT".


VCR MENU
SETUP
SET+/VOL+
CH–
ENTER
CH+
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

2 **Press ENTER to select "ON" or "OFF".**

If "ON" is selected, the playback will be repeated endlessly.


CH–
ENTER
CH+
MENU
TIMER REC SET
AUTO REPEAT ▶ON OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
(+/–/ENTER/MENU)

3 **Press VCR MENU until the menu screen is cleared.**

VCR MENU
SETUP

If you press **CALL**, "⭘" will appear on the screen 11.

4 **To commence playback, press PLAY.**

The playback will be repeated endlessly.

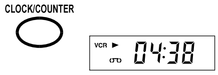
To cancel repeat mode:
Follow the above step **1**, then press **ENTER** to select "OFF" position. Press **VCR MENU** to return to the TV.

Zero return function

This function rewinds the tape to the "00:00:00" counter position automatically.

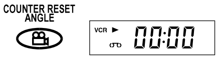
1 **Press CLOCK/COUNTER.**

The counter display shows the tape running time during playback or recording.


CLOCK/COUNTER
VCR ▶
04:38

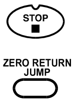
2 **Press COUNTER RESET at the desired tape position.**

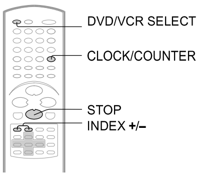
The counter display will be reset to "00:00:00" position (e.g. the beginning of recording).


COUNTER RESET
ANGLE
VCR ▶
00:00

3 **Press STOP when playback or recording is completed.**
Press ZERO RETURN.

The tape will automatically rewind or fast forward to the "00:00:00" counter position.

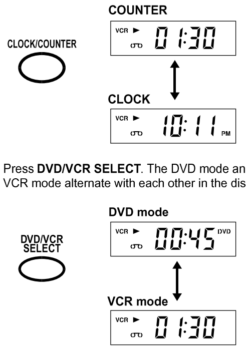

STOP
■
ZERO RETURN
JUMP


DVD/VCR SELECT
CLOCK/COUNTER
STOP
INDEX +/–

Clock/counter display

Press **CLOCK/COUNTER**. The clock and tape counter alternate with each other in the display window.

Press **DVD/VCR SELECT**. The DVD mode and the VCR mode alternate with each other in the display.

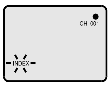

COUNTER
CLOCK/COUNTER
VCR ▶
01:30
CLOCK
VCR ▶
10:11 PM
DVD mode
DVD/VCR
SELECT
VCR ▶
00:45 DVD
VCR mode
VCR ▶
01:30

Notes:
- If you rewind the tape beyond "00:00:00", a minus sign ("–") will be displayed in front of the time.
- When you load a tape, the counter will reset to "00:00:00".
- The counter does not function on nonrecorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections, the counter stops.

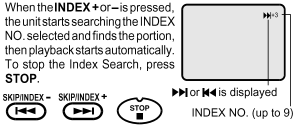
Video index search system

This function enables you to locate the beginning of any recording made on the VCR.

Recording an INDEX mark
The Index Search function automatically records an INDEX mark on the tape whenever a recording is initiated.


●
CH 001
INDEX

Index search
Press **INDEX +** or **–** during stop or play mode.
For Succeeding programs: Press **INDEX +.**
For Preceding programs: Press **INDEX –.**
(As many as 9 index points can be accessed via this method.)
When the **INDEX +** or **–** is pressed, the unit starts searching the INDEX NO. selected and finds the portion, then playback starts automatically.
To stop the Index Search, press **STOP**.


⏭+3
SKIP/INDEX –
SKIP/INDEX +
STOP
■
⏭ or ⏮ is displayed
INDEX NO. (up to 9)

Notes:
- When you record an INDEX mark at the very beginning of the tape, the mark may not be found.
- During INDEX search, the tape may stop and begin to play at a slightly different location.
- INDEX may not function properly with old or worn out video tapes.
- INDEX marks may not be found if it is extremely close to the point where the search began.
- In recording, if you stop recording temporarily, the INDEX mark is not recorded on the tape.

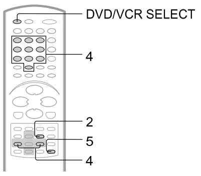
SQPB (S-VHS Quasi Playback)

You can playback video cassette tapes recorded in the S-VHS system.
However, the picture will not have the high resolution of S-VHS system.

Note: You cannot record S-VHS video format with this VCR.

Recording a TV program

Recording and viewing the same TV program.

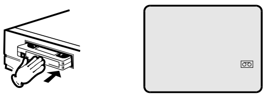

DVD/VCR SELECT
4
2
5
4

Recording a TV program

Preparation:
- Turn ON the TV and select to the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)

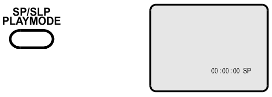
1 **Load a cassette tape with the erase prevention tab intact.**

The DVD/VCR will automatically turn on.



2 **Press SP/SLP to select the desired tape speed SP or SLP.**

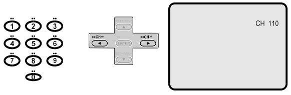
The tape counter and "SP" or "SLP" will appear on the screen for about 4 seconds.


SP/SLP
PLAYMODE
00 : 00 : 00 SP

3 **Select "TV" or "CABLE" to the appropriate position 27.**

TV - VHF/UHF channels
CABLE - Cable TV channels

4 **Press Direct channel selection buttons or CH +/– to select the channel to be recorded.**


1
2
3
4
5
6
7
8
9
0
CH–
ENTER
CH+
CH 110

TV mode direct channel selection:
All channels can be instantly selected by using two buttons. (for example, to select channel 2, press "0", then "2". If you press only "2", channel selection will be delayed for two seconds.) For channels 10 and above, press the 2 digits in order.

CABLE mode direct channel selection:

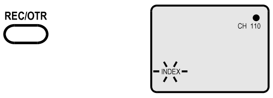
1-9	Press **0** twice and then **1-9** as required. Example: To select "2", Press **002.**
10-12	Press **0** first and then the remaining 2 digits in order from left to right. Example: Press **012** for "12".
13-99	Press 2 digits in order. Example: Press **22** for "22".
100-125	Press the 3 digits in order. Example: Press **110** for "110".

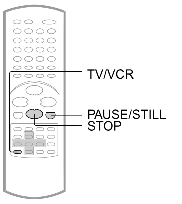
VHF/UHF/CABLE TV CHANNELS

TV	CABLE TV
VHF 2-13	VHF 2-13
UHF 14-69	STD/HRC/IRC 14-36 (A) (W) 37-59 (AA) (WW) 60-85 (AAA) (ZZZ) 86-94 (86) (94) 95-99 (A-5) (A-1) 100-125 (100)(125) 01 (5A)

5 **Press REC/OTR.**

" ● " will appear on the screen for about 4 seconds and "REC" will appear on the display window.

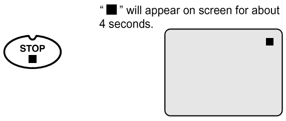

REC/OTR
●
CH 110
INDEX


TV/VCR
PAUSE/STILL
STOP

To stop recording

Press STOP to stop recording.

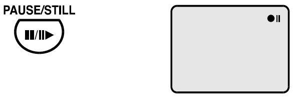
" ■ " will appear on screen for about 4 seconds.



To stop recording temporarily

Press PAUSE/STILL to avoid recording unwanted material. Press again to continue the recording.

" ●II " will appear on screen for about 4 seconds.


PAUSE/STILL
II/II▶
●II

Notes:
- The pause function will be released after 5 minutes to prevent damage to the tape or the VCR. The VCR will change to the STOP mode.
- You can select a recording channel in the recording pause mode.

Recording one program while watching another

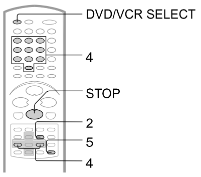
While the VCR is recording, select your desired channel on the TV.
When a TV is connected with an antenna cable only, press TV/VCR to select the TV position.
The "VCR" display will go off and recording will continue.
Select the TV channel you want to watch by using the TV channel selector.

Note:
Some Cable TV hookups do not permit viewing one channel while recording another. See pages 16 and 17.

■ **Auto Rewind feature**
This VCR will automatically rewind the tape when the tape has ended (except during OTR and timer recording). It will also eject the tape.

One-touch Timer Recording (OTR)

The One-touch Timer Recording feature provides a simple and convenient way to make a timed recording.


DVD/VCR SELECT
4
STOP
2
5
4

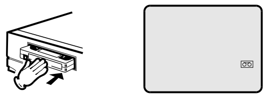
One-touch Timer Recording (OTR)

Preparation:
- Turn ON the TV and select to the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)

Example: One-touch Timer Recording for 30 minutes.

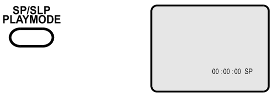
1 Load a cassette tape with the erase prevention tab intact.

The VCR will automatically turn on.



2 Press SP/SLP to select the desired tape speed SP or SLP.

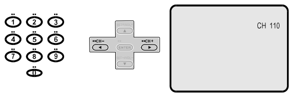
The tape counter and "SP" or "SLP" will appear on the screen for about 4 seconds.


SP/SLP
PLAYMODE
00 : 00 : 00 SP

3 Set "TV" or "CABLE" option to the appropriate position 27.

TV - VHF/UHF channels
CABLE - Cable TV channels

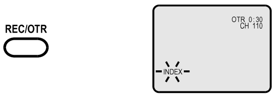
4 Press Direct channel selection buttons or CH +/– to select the channel to be recorded.


CH–
CH+
ENTER
CH 110

5 Press REC/OTR. Recording begins. Press the button again to stop recording after 30 minutes. Each additional press of REC/OTR will increase recording time as shown in the chart below, up to a maximum of 6 hours.

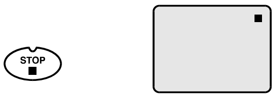
The OTR and recording time will appear on the screen for about 4 seconds. And, "●" will appear on the display.

Press	Recording time	Press	Recording time
once	NORMAL REC	6 times	3:00
twice	0:30	7 times	4:00
3 times	1:00	8 times	5:00
4 times	1:30	9 times	6:00
5 times	2:00	10 times	NORMAL REC


REC/OTR
OTR 0:30
CH 110
INDEX

To cancel OTR

Press **STOP** or turn off the power.

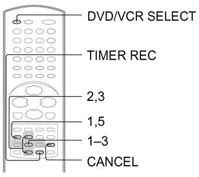


"■" will appear on screen for about 4 seconds.

Note:
If you wish to watch the DVD playback during OTR or standard recording, press **DVD/VCR SELECT** to change to DVD mode and perform the DVD playback 43.

Timer recording

Timer recording can be programmed on-screen with the remote control. The built-in timer allows automatic unattended recording of up to 8 programs within 1 month.

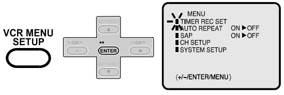

DVD/VCR SELECT
TIMER REC
2,3
1,5
1–3
CANCEL

Timer recording

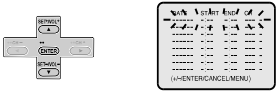
Preparation:
- Press **DVD/VCR SELECT** to select the VCR mode.
- Load a cassette tape with the erase prevention tab intact.
- Check the time and date are correct 24.

Example: Program a timer recording for the 26th day, channel 125 (Cable TV), 11:00 - 11:30 PM on timer program number 1 (Tape speed: SLP).

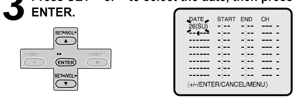
1 Press VCR MENU. Select "TIMER REC SET", then press ENTER.


VCR MENU
SETUP
ENTER
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
〈+/–/ENTER/MENU〉

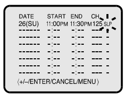
2 Press SET + or – to select one of the program line, then press ENTER.


SET+/VOL+
ENTER
SET–/VOL–
DATE START END CH
〈+/–/ENTER/CANCEL/MENU〉

3 Press SET + or – to select the date, then press ENTER.


DATE START END CH
26(SU)
〈+/–/ENTER/CANCEL/MENU〉

4 Set the start time, end time, channel and tape speed as in step 3.

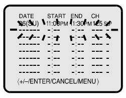

DATE START END CH
26(SU) 11:00PM 11:30PM 125 SLP
〈+/–/ENTER/CANCEL/MENU〉

Notes:
- Press **CANCEL** to move cursor backward for correction.
- To record from external source set the channel to "L1" or "L2".

5 To enter other programs, repeat step 2 through 4.

VCR MENU SETUP

- To return to the normal screen, press **VCR MENU** twice.


DATE START END CH
26(SU) 11:00PM 11:30PM 125 SLP
〈+/–/ENTER/CANCEL/MENU〉

6 Press TIMER REC. The timer symbol (⏲) will appear on the display and the VCR stands by for recording.

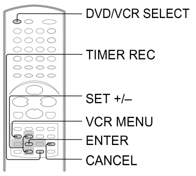
TIMER REC

At the same time, VCR mode will change to DVD mode automatically. You can use DVD even if the VCR is in the timer recording mode.
If you do not use the DVD, turn the power off.

Notes:
- The timer recording will start at 5 seconds before the time you predetermined.
- If the timer symbol (⏲) does not appear on the display in spite of the pressing of **TIMER REC**, the cassette may not have been loaded. 29
- If the cassette is ejected in spite of the pressing of **TIMER REC**, the erase prevention tab of the cassette may have been removed. 29

Notes:
- If the timer symbol (⏲) blinks when the timer recording ended, the TV program has not been completely recorded because of an insufficient tape length. Press **TIMER REC** to cancel the timer program or press **EJECT** on the front panel to remove the cassette tape.
- During timer recording standby mode, the VCR mode cannot be operated. To use the VCR, press **TIMER REC** at first, then press **DVD/VCR SELECT** to change to VCR mode. After you use the VCR, press **TIMER REC** again to put the VCR into timer recording standby mode.
- If you press **TIMER REC** during timer recording, the recording operation will be interrupted. If you press **TIMER REC** again within the programmed time, the recording operation will start again.
- After a power failure or disconnection of the power plug, all programmed recording settings and time display will be lost upon resumption of power. In this case, reset the clock 24 and reprogram any timer recording.

Timer recording (continued)

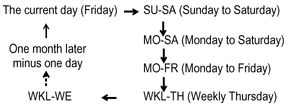

DVD/VCR SELECT
TIMER REC
SET +/–
VCR MENU
ENTER
CANCEL

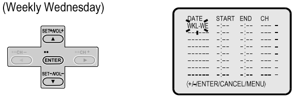
To set daily/weekly timer

Weekly (e.g. WKL-TU: each Tuesday) or daily (e.g. MO-SA: Monday to Saturday) Timer recording

Follow the procedure of timer recording on the previous page. At step **3** press **SET +** or **–** repeatedly until the desired setting appears. Then press **ENTER.**

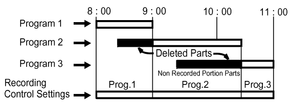
When you press **SET –** repeatedly, the DATE indicator will change as follows, in this case the day is Friday.


The current day (Friday)
SU-SA (Sunday to Saturday)
MO-SA (Monday to Saturday)
MO-FR (Monday to Friday)
WKL-TH (Weekly Thursday)
WKL-WE
(Weekly Wednesday)
One month later
minus one day


SET+/VOL+
ENTER
SET–/VOL–
DATE START END CH
WKL-WE
(+/–/ENTER/CANCEL/MENU)

If the programs overlap another

Do not overlap timer programs as portions of the conflicting programs will be lost. The first recording time has priority over the next recording time as shown in the diagram below.


8 : 00
9 : 00
10 : 00
11 : 00
Program 1
Program 2
Program 3
Recording Control Settings
Deleted Parts
Non Recorded Portion Parts
Prog.1
Prog.2
Prog.3

Notes:
- The daily/weekly recording can be made continuously until the recording is canceled or the tape reaches the end.
- During timer recording the automatic rewinding mechanism does not function.

To confirm or cancel a program

1 If the Timer has been activated, press TIMER REC to deactivate the Timer.

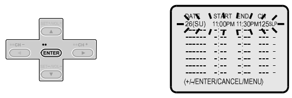
The timer symbol (⏲) will disappear. Then press **DVD/VCR SELECT** to change to VCR mode.

TIMER REC

DVD/VCR SELECT

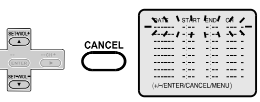
2 To confirm Timer program:

At step **1** on the previous page select "TIMER REC SET" and press **ENTER.**
The timer program list will appear on the screen.


ENTER
DATE START END CH
26(SU) 11:00PM 11:30PM125SLP
(+/–/ENTER/CANCEL/MENU)

3 To cancel Timer program:

Press **SET +** or **–** to select the unwanted program, then press **CANCEL** to cancel the program.

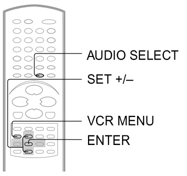

SET+/VOL+
SET–/VOL–
CANCEL
DATE START END CH
(+/–/ENTER/CANCEL/MENU)

4 Press VCR MENU repeatedly until the menu screen is cleared.

VCR MENU SETUP

Notes:
- If there are other timer record programs remaining, **TIMER REC** must be pressed to reactivate the timer, otherwise the remaining timer record programs will be ignored.
- You cannot confirm the Timer program during timer recording operation.
- You can correct or cancel a programmed setting in program confirm mode.

Stereo recording and playback / Second Audio Program (SAP)


AUDIO SELECT
SET +/–
VCR MENU
ENTER

Stereo recording and playback

The VHS Hi-Fi audio system permits high fidelity recording of MTS STEREO TV broadcasts.

When a MTS STEREO broadcast is received, "STEREO" will appear on the screen for about 4 seconds and the program can be viewed or recorded in stereo. The Hi-Fi stereo recording procedure is the same as for normal recordings.

Note:
When using a Cable TV system, stereo TV programs may be transmitted over a mono cable channel. In this case "STEREO" will not appear and the sound will be in mono.

AUDIO SELECT
AUDIO

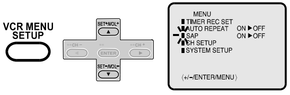
Output selection
When viewing an MTS stereo TV program, or playing a prerecorded VHS Hi-Fi stereo videotape, press **AUDIO SELECT** to select how the audio will be heard through the speakers. Normally set to the Hi-Fi stereo position, this button can be set to the MONO position if the stereo broadcast or videotape audio is of poor quality. The "R" and "L" positions allow the audio from the Right or Left Hi-Fi channel to be heard over both TV speakers. This button has no effect when viewing a MONO videotape or TV program. Each time when you press the button, OUTPUT SELECTION display appears on the screen for several seconds. Refer to the chart below.

OUTPUT SELECTION	SOUND HEARD ON BOTH SPEAKERS
STEREO L CH R CH MONO	STEREO LEFT CHANNEL AUDIO RIGHT CHANNEL AUDIO MONO

Second Audio Program (SAP)

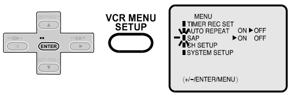
Your DVD/VCR is fitted with a SAP broadcast system which enables you to switch to a second audio program when viewing a selected channel.
This function applies only when the program is broadcast in multi-languages through the SAP broadcast system.

1 Press VCR MENU. Then press SET + or – to select "SAP".


VCR MENU
SETUP
SET+/VOL+
SET–/VOL–
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ON ▶OFF
CH SETUP
SYSTEM SETUP
〈+/–/ENTER/MENU〉

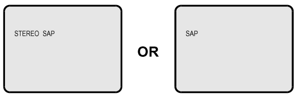
2 Press ENTER to select "ON".

Then press **VCR MENU** until the menu screen is cleared.


ENTER
VCR MENU
SETUP
MENU
TIMER REC SET
AUTO REPEAT ON ▶OFF
SAP ▶ON OFF
CH SETUP
SYSTEM SETUP
〈+/–/ENTER/MENU〉

Listening to SAP

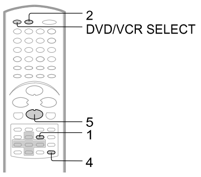
When the VCR is turned on or a channel selection is made, make certain the letters "SAP" appears on the screen for about 4 seconds. This means that the "Second Audio Program" broadcasting is available.


STEREO SAP
OR
SAP

Notes:
- When playing back a tape that is not recorded in Hi-Fi stereo mode, the audio will automatically be monaural.
- When listening to a VHS Hi-Fi video tape or MTS broadcast through the VHF/UHF jack (Audio/Video cable not connected), the sound will be monaural.

Duplicating a video tape

If you connect the DVD/VCR to another VCR or Camcorder, you can duplicate a previously recorded tape. Make all connections before turning on the power.



Duplicating a video tape

Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)
- Load a cassette tape with the erase prevention tab intact.
- Load a previously recorded tape into the playback VCR or Camcorder.

1 **Press SP/SLP to select the desired tape speed SP or SLP.**

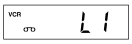
SP/SLP PLAYMODE

It is recommended that you set the tape speed to the SP mode on the recording VCR for best results.

2 **Press INPUT SELECT once or twice to select AUDIO/VIDEO input position.**

"L1" or "L2" will appear in the display.

•INPUT SELECT PROGESSIVE



L1: on the rear panel
L2: on the front panel

3 **Press PLAY on the playback VCR or Camcorder.**

4 **Press REC/OTR on the recording VCR.**

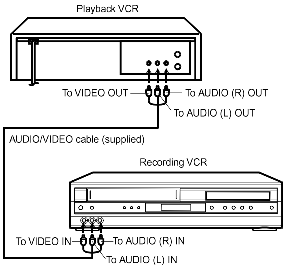
The duplicating process begins.

REC/OTR

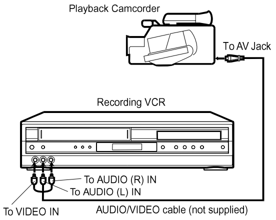
5 **Press STOP after duplicating a video tape.**

STOP ■

Connection with second VCR



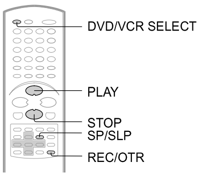
Connection with Camcorder



For duplicating a previously recorded tape from a camcorder, follow the camcorder manufacturer's instructions. A typical camcorder dubbing hookup is shown above.

Recording a DVD/CD disc

You can record disc material in DVD, Audio CD, etc. onto a Video tape with this DVD/VCR.



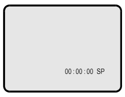
Duplicating a DVD or CD disc

Preparation:

- Turn ON the TV and select the corresponding video input.
- Press **DVD/VCR SELECT** to select the VCR mode. (The VCR indicator will light.)
- Load a cassette tape with the erase prevention tab intact.
- Load a DVD/CD disc.

1 **Press SP/SLP to select the desired tape speed SP or SLP.**

SP/SLP PLAYMODE



2 **Press DVD/VCR SELECT to select the DVD mode.**

The DVD indicator will light.

DVD/VCR SELECT

DVD

3 **Press PLAY to start playback.**

PLAY ▶

4 **Press REC/OTR to start recording.**

REC/OTR

The DVD/VCR will change to the VCR mode automatically and the playback picture or sound will be duplicated on the video cassette tape.

5 **Press STOP if you finish recording.**

STOP ■

If you wish to stop a DVD/CD disc, press **DVD/VCR SELECT** to change the DVD mode, then press **STOP.**

Notes:

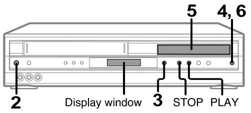
- You may not be able to record the beginning of the disc. Begin VCR recording once program playback commences on the DVD.
- When the scanning mode is set to the progressive mode, you cannot duplicate a disc material onto a video tape. When **REC/OTR** is pressed, the PROGRESSIVE indicator "P" on the display window will flash and "Please Set P Off" will appear on the screen.
- You can not record discs encoded with copy guard function. The following icon and text will show up on the TV screen.

DISC IS COPY PROTECTED

Playing a disc

This section shows you the basics on how to play a disc.

CAUTION
Keep your fingers well clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.



DVD VCD CD Basic playback

Preparations:

- When you want to view a disc, turn on the TV and select the corresponding video input connected to the DVD/VCR. This may include S-video or component video inputs which are exclusive to DVD playback.
- When you want to enjoy the sound of discs from the audio system, turn on the audio system and select the input connected to the DVD/VCR.

1 **Press DVD/VCR on the remote control to operate the DVD/VCR.**

DVD/VCR

2 **Press ON/STANDBY (I /⏻).**

ON/STANDBY I/⏻

The DVD/VCR turns on.

3 **Press VCR/DVD SELECT to select the DVD mode.**

VCR/DVD SELECT

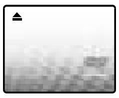
The DVD indicator will light.

DVD

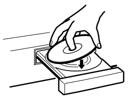
4 **Press OPEN/CLOSE.**

OPEN/CLOSE ⏏

The disc tray opens.



5 **Place the disc on the disc tray.**



With the playback side down

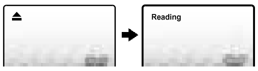
- There are two different disc sizes. Place the disc in the correct guide on the disc tray. If the disc is out of the guide, it may damage the disc and cause the DVD/VCR to malfunction.
- Do not place a disc which is unplayable in this DVD/VCR.

6 **Press OPEN/CLOSE or PLAY on the unit.**

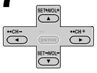
OPEN/CLOSE ⏏ OR PLAY ▶

The disc tray closes automatically. On the TV-screen, "⏏" changes to "Reading" and then playback commences.

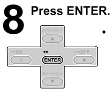
- A menu screen will appear on the TV screen, if the disc has a menu feature.



7 **Press ▲/▼ or ◀ / ▶ to select title.**



8 **Press ENTER.**



- Title is selected and play commences.

9 **Press STOP to end playback.**

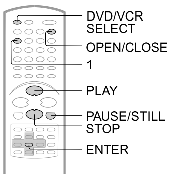
STOP ■

- The unit records the stopped point, depending on the disc. "▶■" appears on the screen. Press **PLAY** to resume playback (from the scene point).
- If you press **STOP** again or unload the disc ("■" appears on the screen.), the unit will clear the stopped point.

■ To start playback in the stop mode

Press **PLAY.**

PLAY ▶



■ To obtain a higher quality picture

Occasionally, some picture noise not usually visible during a normal broadcast may appear on the TV screen while playing a DVD video disc because the high resolution pictures on these discs include a lot of information. While the amount of noise depends on the TV you use with this DVD/VCR, you should generally reduce the sharpness adjustment on your TV when viewing DVD video discs.

■ About DVD VCD CD

The DVD VCD CD icons on the heading bar show the playable discs for the function described under that heading.

DVD : You can use this function with DVD video discs.
VCD : You can use this function with Video CDs.
CD : You can use this function with Audio CDs and CD-R/RW CDs.

■ To pause playback (still mode)

Press **PAUSE/STILL** during playback.

PAUSE/STILL ❚❚/❚▶

To resume normal playback, press the PLAY button.

- The sound is muted during still mode.

■ To stop playback

Press **STOP**.

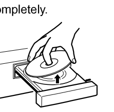
STOP ■

■ To remove the disc

Press **OPEN/CLOSE.**

OPEN/CLOSE ⏏

Remove the disc after the disc tray opens completely.



Be sure to press the OPEN/CLOSE button to close the disc tray after you remove the disc.

■ Playing a Disc while the VCR section is recording or standing by for timer recording

1) Start to record.
   Follow steps 1~5 on page 34.
   - If the DVD/VCR is standing by for recording, turn on the DVD/VCR.
2) Press DVD/VCR SELECT to select DVD mode. The DVD indicator will light.
3) Play a disc.
   Follow steps 4 ~ 6 on page 42.
   - Press PLAY if the DVD/VCR does not start to play a disc automatically.
4) Stop to play.
   Press STOP to stop play back a disc.

■ Screen saver function

The screen saver operates when you leave the unit in DVD stop mode for about five minutes.
The screen will repeatedly get dark gradually and back to normal.

■ To turn off the PBC

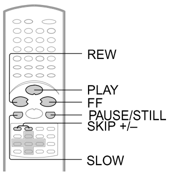
Press number button 1 in the stop mode, then press ENTER.

Notes:

- If a non-compatible disc is loaded, "Incorrect Disc", "Region Code Error" or "Parental Error" will appear on the TV screen according to the type of loaded disc. In this case, check your disc again (See pages 8 and 61).
- Some discs may take a minute or so to start playback.
- When you set a single-faced disc label downwards (ie. the wrong way up) and press the OPEN/CLOSE button or the PLAY button on the unit, "Reading" will appear on the display for 30 seconds and then "Incorrect Disc" will continue to be displayed.
- Some discs may not work the resuming facility.
- Resuming cannot function when you play a PBC-featured Video CD while the PBC is on. To turn off the PBC, see above.
- Some playback operations of DVDs may be intentionally fixed by software producers. Since this unit plays DVDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs.
- Do not move the DVD/VCR during playback. Doing so may damage the disc.
- Use the OPEN/CLOSE button to open and close the disc tray. Do not push the disc tray while it is moving. Doing so may cause the DVD/VCR to malfunction.
- Do not push up on the disc tray or put any objects other than discs on the disc tray. Doing so may cause the DVD/VCR to malfunction.
- In many instances, a menu screen will appear after playback of a movie is completed. Prolonged display of an on-screen menu may damage your television set, permanently etching that image onto its screen. To avoid this, be sure to press the POWER (I /⏻) button on your remote control once the movie is completed.
- There may be a slight delay between you pressing the button and the function activating.

Playing a disc (continued)

You can play discs at various speeds.



Playing in fast reverse or fast forward directions

Press REW or FF during playback.

REW: Fast reverse playback
FF: Fast forward playback

Each time you press the REW or FF button, the playback speed changes.

■ To resume normal playback

Press **PLAY.**

Notes:
- The DVD/VCR mutes sound and subtitles during reverse and forward scan of DVD video discs. However, the DVD/VCR plays sound during fast forward or fast reverse play of audio CDs.
- The playback speed may differ depending on the disc.

Playing frame by frame

Press PAUSE/STILL during still playback.

PAUSE/STILL

Each time you press the PAUSE/STILL button, the picture advances one frame.

■ To resume normal playback

Press **PLAY.**

Note:
The sound is muted during frame by frame playback.

Playing in slow-motion

Press SLOW during playback.

SLOW

Each time you press the SLOW button, the slow-motion speed changes.

■ To resume normal playback

Press **PLAY.**

Note:
The sound is muted during slow-motion playback.

Locating a chapter or track

Press SKIP + or – repeatedly to display the chapter or track number you want.
Playback starts from the selected chapter or track.

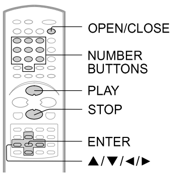
SKIP/INDEX + To locate succeeding chapters or tracks.

SKIP/INDEX – Playback starts from the beginning of the current chapter or track.
When you press twice in quick successions, playback starts from the beginning of the preceding chapter or track.

Notes:
- A "Prohibition" symbol ✋ may appear at the upper left of the screen. This symbol means either the feature you tried is not available on the disc, or the DVD/VCR can not access the feature at this time. This does not indicate a problem with the DVD/VCR.
- The unit is capable of holding a still video image or On screen display image on your television screen indefinitely. If you leave the still video image or On screen display image displayed on your TV for an extended period of time, you risk permanent damage to your television screen. Projection televisions are very susceptible.

MP3/WMA/JPEG playback

This player can play back the MP3/WMA/JPEG-data which has been recorded on CD-R or CD-RW. To produce the MP3/WMA/JPEG-data, you need a Windows-PC with CD-ROM drive and a MP3/WMA/JPEG-encoding Software (not supplied).
The Apple-HFS-System can not be played.

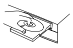


MP3/WMA playback

1 **Press OPEN/CLOSE.**

OPEN/CLOSE

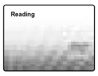
The disc tray will open. Place a disc on which MP3 or WMA files have been recorded onto the tray.



2 **Press OPEN/CLOSE or PLAY.**

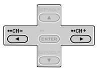
OPEN/CLOSE

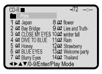
The disc tray closes automatically. On the TV-screen,"Reading" will appear. Reading will take as much time as the number of file.



```
Reading
```

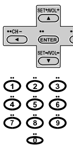
3 **A file menu screen will appear on the TV screen.**
Press ◀ or ▶ to select folder.



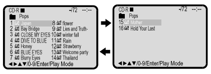


```
CD-R ■                -/72  --:--
Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 winter fall
4 DIVE TO BLUE  11 Rain
5 Honey         12 Strawberry
6 BLUE EYES     13 Welcome party
7 Blurry Eyes   14 Thailand
◀▶▲▼/0-9/Enter/Play Mode
```

4 **Press ▲/▼ or ◀/▶ or Number buttons (0–9) to select the desired file, then press ENTER.**
The file is selected and play commences.



- In case the folder includes more than 15 tracks, press ◀ or ▶ to display next file list.



```
CD-R ■                -/72  --:--
Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 winter fall
4 DIVE TO BLUE  11 Rain
5 Honey         12 Strawberry
6 BLUE EYES     13 Welcome party
7 Blurry Eyes   14 Thailand
◀▶▲▼/0-9/Enter/Play Mode
```

```
CD-R ■                -/72  --:--
Pops
15 Mother
16 Hold Your Last
◀▶▲▼/0-9/Enter/Play Mode
```

- When **PLAY** has been pressed after displaying the file menu, or when the disc tray has been closed after pressing **PLAY** in step 2, playback begins automatically starting from the first file. In this case, if the first file is an MP3/WMA file, only MP3/WMA files are played back in order.
  If the first file is a JPEG file, the first JPEG file is played back.

5 **Press STOP to end playback.**

- The unit records the stopped point. "⚑" appears on the screen. Press **PLAY** to resume playback (from the scene point).
- If you press **STOP** again or unload the disc, the unit will clear the stopped point.

MP3/WMA/JPEG CD Information

Limitations on MP3/WMA/JPEG CD playback
- MP3/WMA/JPEG CD is the disc that is standardized by ISO9660, its file name must include 3-digits extension letters, "mp3", "wma", "jpg".
- The directory and file names of the MP3/WMA/JPEG CD must be correspond to the ISO standardized files.
- This unit can read 200 files per disc. If a disc has more than 200 files, it reads up to 200 files, the remaining files will be omitted.
- The unit is able to recognize up to a maximum of 50 directories per disc.
- MP3/WMA CDs cannot be used for playback for the purpose of recording.
- If the CD has both audio tracks and MP3/WMA/JPEG files, only audio tracks are played.
- It may take more than one minute for this unit to read MP3/WMA/JPEG files depending on its structure.
- Music recorded by "Joliet Recording Specification" can be played back, the file name is displayed (within 16 letters) on the screen. Long file names will be condensed.
- The music files recorded by "Hierarchical File System" (HFS) cannot be played.
- The unit can play back baseline and progressive JPEG files.

Limitations on display
- The maximum number for display is 16 letters. Available letters for display are the following: capital or small alphabets of A through Z, numbers of 0 through 9, and _ (under score).
- Other letters than those above are replaced in hyphen.

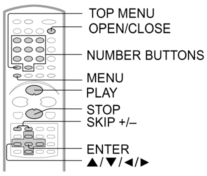
Notes on MP3/WMA/JPEG files
To play back MP3/WMA/JPEG CD in the recorded order,
1. Use MP3/WMA/JPEG software that records data alphabetically or numerically.
2. Name each file including two-digit or three-digit number (e.g. "01" "02" or "001" "002").
3. Refrain from making too many sub-folders.

WMA disc compatibility with this player is limited as follows:
1) Sampling Frequency: within 32 -- 48 kHz
2) Bit Rate: within 48 -- 192kbps.
   Mono WMA files and WMA files (under 48kbps) cannot be played back on this player.

CAUTION:
- Some MP3/WMA/JPEG CDs can not be played back depending on the recording conditions.
- The CD-R/RW that has no music data or non-MP3/WMA/JPEG files can not be played back.

MP3/WMA/JPEG playback (continued)

You can select your desired JPEG file on the file menu and picture menu.
The selected JPEG file is automatically adjusted to the TV screen. (When the aspect ratio of the JPEG file is different to your TV screen, the black bar will appear at the top and bottom, or the both sides of the TV screen.

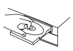


JPEG CD playback

1 **Press OPEN/CLOSE.**

OPEN/CLOSE

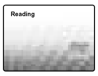
The disc tray will open. Place a disc on which JPEG files have been recorded onto the tray.



2 **Press OPEN/CLOSE or PLAY.**

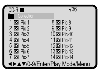
OPEN/CLOSE

The disc tray closes automatically. On the TV-screen, "Reading" will appear. Reading will take as much time as the number of file.



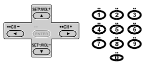
```
Reading
```

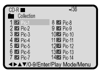
3 **A file menu screen will appear on the TV screen.**
Press ◀ or ▶ to select folder.



```
CD-R ■            -/36
Collection
1 Pic-1     8 Pic-8
2 Pic-2     9 Pic-9
3 Pic-3    10 Pic-10
4 Pic-4    11 Pic-11
5 Pic-5    12 Pic-12
6 Pic-6    13 Pic-13
7 Pic-7    14 Pic-14
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

4 **Press ▲/▼ or ◀/▶ or Number buttons (0–9) to select the desired file.**



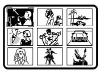


```
CD-R ■            -/36
Collection
1 Pic-1     8 Pic-8
2 Pic-2     9 Pic-9
3 Pic-3    10 Pic-10
4 Pic-4    11 Pic-11
5 Pic-5    12 Pic-12
6 Pic-6    13 Pic-13
7 Pic-7    14 Pic-14
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

To display a picture menu, press MENU.
(To return to a file menu, press TOP MENU.)
Press ▲/▼ or ◀/▶ to select the desired file.

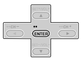
MENU

TOP MENU



- To display next list, press **SKIP +** or **–**.
- When **PLAY** has been pressed after displaying the file menu, or when the disc tray has been closed after pressing **PLAY** in step 2, playback begins automatically starting from the first file. In this case, if the first file is a JPEG file, the first JPEG file is played back. If the first file is an MP3/WMA file, only MP3/WMA files are played back in order.

5 **Press ENTER.**



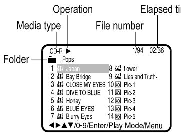
The selected picture appears on the TV screen.

6 **Press STOP to end playback.**

The file menu appears on the TV screen.
If you want to watch the other file, repeat steps 4~5.

Notes:
- The picture menu is displayed when the FUJICOLOR CD or the Kodak Picture CD are played. To display the file menu press **TOP MENU**.
- During MP3/WMA/JPEG-Playback, you can not use SEARCH, A-B Repeat functions.
- You can use Repeat (Track or All), Random functions and Program playback for MP3/WMA/JPEG CD Playback. (See pages 52 and 53.)
- In the case of a CD containing a mixture of MP3, WMA and JPEG files, the files are played back by selecting them from the file menu.

File menu information



```
CD-R ▶                  1/94  02:36
Pops
1 Japan          8 flower
2 Bay Bridge     9 Lies and Truth-
3 CLOSE MY EYES 10 Pic-1
4 DIVE TO BLUE  11 Pic-2
5 Honey         12 Pic-3
6 BLUE EYES     13 Pic-4
7 Blurry Eyes   14 Pic-5
◀▶▲▼/0-9/Enter/Play Mode/Menu
```

♫ : Indicates MP3 file
♫ : Indicates WMA file
▣ : Indicates JPEG file

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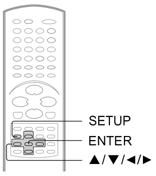
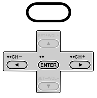


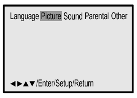
Setting the JPEG Interval

You can continuously play back all JPEG files automatically.
After the setting below, start playing the disc on which JPEG files have been recorded.

1 **Press SETUP in the stop mode. Press ◀ or ▶ to select "Picture", then press ENTER.**

VCR MENU
SETUP

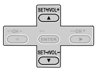


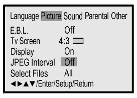


```
Language Picture Sound Parental Other

◀▶▲▼/Enter/Setup/Return
```

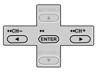
2 **Press ▲ or ▼ to select "JPEG Interval".**

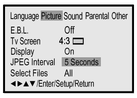




```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3 ▭
Display         On
JPEG Interval   Off
Select Files    All
◀▶▲▼/Enter/Setup/Return
```

3 **Press ENTER or ◀/▶ to select your desired time.**





```
Language Picture Sound Parental Other
E.B.L.          Off
Tv Screen       4:3 ▭
Display         On
JPEG Interval   5 Seconds
Select Files    All
◀▶▲▼/Enter/Setup/Return
```

Off:
Plays back one file at a time.

5 Seconds:
Plays back images in the form of a slide show at 5 second intervals.

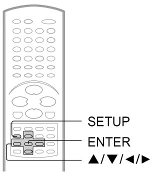
10 Seconds:
Plays back images in the form of a slide show at 10 second intervals.

15 Seconds:
Plays back images in the form of a slide show in 15 second intervals.

4 **To make SETUP screen disappear, press SETUP.**

VCR MENU
SETUP

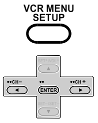
MP3/WMA/JPEG playback (continued)

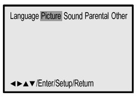


Setting the Select Files

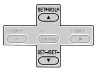
When playing back a CD containing a mixture of MP3, WMA and JPEG files, only MP3/WMA or JPEG files can be displayed on the file menu.

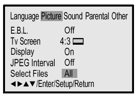
1 **Press SETUP in the stop mode.**
Press ◄ or ► to select "Picture", then press ENTER.



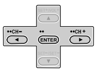

Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

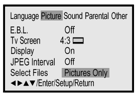
2 **Press ▲ or ▼ to select "Select Files".**




Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

3 **Press ENTER or ◄ / ► to select your desired file type.**

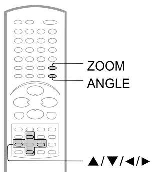



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files Pictures Only
◄►▲▼/Enter/Setup/Return

All:
Displays all files.
Music Only:
Displays only MP3/WMA files.
Pictures Only:
Displays only JPEG files.

4 **To make SETUP screen disappear, press SETUP.**

VCR MENU
SETUP



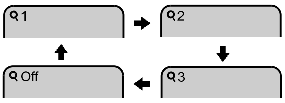
Zooming (JPEG CD)

This unit will allow you to zoom in on the JPEG image.

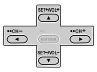
1 **Press ZOOM during playback.**

CM SKIP
ZOOM

Enlarged JPEG images are displayed. You can make the images even larger by repeatedly pressing **ZOOM.**



2 **Press ▲ / ▼/ ◄ / ► to view a different part of the frame.**



You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 **In the zoom mode press ZOOM repeatedly to return to a 1:1 view (🔍 Off).**

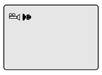
CM SKIP
ZOOM

Changing angles (JPEG CD)

You can display JPEG images rotating at 90 degree intervals.

1 **Press ANGLE during playback.**
Images are rotated 90 degrees to the right.

COUNTER RESET
ANGLE

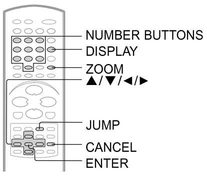


2 **Press ANGLE repeatedly until the desired angle is selected.**
Pressing ANGLE four times returns the image to its original angle.

COUNTER RESET
ANGLE

- Images are displayed at the same angle until the disc is removed.

Zooming/Locating desired scene



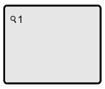
Zooming

This unit will allow you to zoom in on the frame image. You can then make selections by switching the position of the frame.

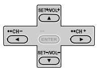
1 **Press ZOOM during playback.**

CM SKIP
ZOOM

The centre part of the image will be zoomed in.
Each press of **ZOOM** will change the ZOOM 🔍1 (x 1.3), 🔍2 (x 1.5) and 🔍3 (x 2.0).



2 **Press ▲ / ▼/ ◄ / ► to view a different part of the frame.**



You may move the frame from the centre position to UP, DOWN, LEFT or RIGHT direction.

3 **In the zoom mode press ZOOM repeatedly to return to a 1:1 view (🔍 Off).**

CM SKIP
ZOOM

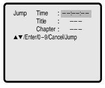
Notes:
- You can select the Pause, Slow or Search playback in the zoom mode.
- Some discs may not respond to zoom feature.

Locating desired scene

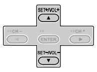
Use the title, chapter and time recorded on the disc to locate the desired point to play back.
To check the title, chapter and time, press **DISPLAY.**

1 **Press JUMP during playback or stop mode.**

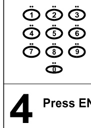
ZERO RETURN
JUMP


Jump Time : --:--:--
Title : ---
Chapter : ---
▲▼/Enter/0–9/Cancel/Jump

2 **Press ▲ or ▼ to select the "Time", "Title" or "Chapter".**

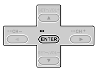


3 **Press Number buttons (0–9) to change the number.**



- If you input a wrong number, press **CANCEL**.
- Refer to the package supplied with the disc to check the numbers.

4 **Press ENTER. Playback starts.**

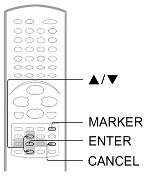


- When you change the title, playback starts from Chapter 1 of the selected title.
- Some discs may not work in the above operation.

Note:
In case of the Video-CD playback with PBC, the JUMP does not work. To turn off PBC, see page 43.

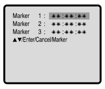
Marking desired scenes

The unit stores the points that you want to watch again up to 3 points.
You can resume playback from each scene.



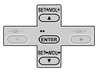
Marking the scenes

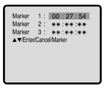
1 **Press MARKER during playback.**


Marker 1 : ＊＊:＊＊:＊＊
Marker 2 : ＊＊:＊＊:＊＊
Marker 3 : ＊＊:＊＊:＊＊
▲▼/Enter/Cancel/Marker

2 **Select the blank Marker using ▲ or ▼. Then press ENTER at the desired scene.**

- Repeat this procedure to set the other 2 scenes.



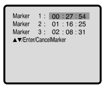

Marker 1 : 00 : 27 : 54
Marker 2 : ＊＊:＊＊:＊＊
Marker 3 : ＊＊:＊＊:＊＊
▲▼/Enter/Cancel/Marker

3 **Press MARKER to remove this display.**

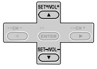
Notes:
- Some discs may not work with the marking operation.
- The marking is canceled when you open the disc tray or turn the power off.
- Some subtitles recorded around the marker may fail to appear.

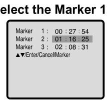
Returning to the scenes

1 **Press MARKER during playback or stop mode.**

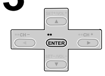

Marker 1 : 00 : 27 : 54
Marker 2 : 01 : 16 : 25
Marker 3 : 02 : 08 : 31
▲▼/Enter/CancelMarker

2 **Press ▲ or ▼ to select the Marker 1-3.**




Marker 1 : 00 : 27 : 54
Marker 2 : 01 : 16 : 25
Marker 3 : 02 : 08 : 31
▲▼/Enter/Cancel/Marker

3 **Press ENTER.**

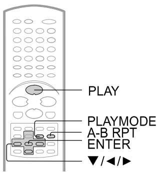


Playback starts from the marked scene.

■ To cancel the Marker

Follow the above steps 1~2, then press **CANCEL.**

Repeat playback/A-B Repeat playback

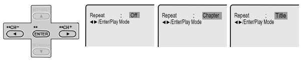


DVD VCD CD Repeat playback of Title, Chapter and Track

1 **Press PLAYMODE during playback or stop mode.**

SP/SLP
PLAYMODE

2 **[DVD]**
Press ◀ / ▶ or ENTER once or twice to select "Chapter" or "Title".

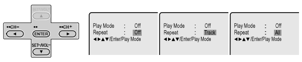


Repeat : Off
◀▶/Enter/Play Mode

Repeat : Chapter
◀▶/Enter/Play Mode

Repeat : Title
◀▶/Enter/Play Mode

[CD/VCD]
Press ▼ to select "Repeat".
Press ◀ / ▶ or ENTER once or twice to select "Track" or "All".



Play Mode : Off
Repeat : Off
◀▶▲▼/Enter/Play Mode

Play Mode : Off
Repeat : Track
◀▶▲▼/Enter/Play Mode

Play Mode : Off
Repeat : All
◀▶▲▼/Enter/Play Mode

3 **Press PLAYMODE again to make the screen disappear.**
Press PLAY to start Repeat playback.
To resume normal playback, select Repeat "Off".

Note:
Some discs may not work with the repeat operation.

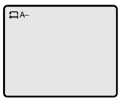
DVD VCD CD A-B Repeat playback

A-B repeat playback allows you to repeat material between two selected points.

1 **Press A-B RPT during playback.**

A-B RPT

The start point is selected.



A–

2 **Press A-B RPT again.**

A-B RPT

The end point is selected. Playback starts at the point that you selected. Playback stops at the end point, returns to Point A automatically, then starts again.

A–B

■ **To resume normal playback**
Press **A-B RPT** again.

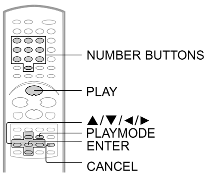
A-B RPT

" Off" appears on the screen.

Notes:
- In A-B repeat mode, subtitles near point A or B may not appear.
- A-B Repeat playback is not available in multi-angle scenes.
- A-B Repeat playback does not work when Repeat playback is on.
- You may not be able to set A-B Repeat, depending on the scenes of the DVD.
- A-B repeat does not work with an interactive DVD, MP3/WMA/JPEG CD and Video CD with PBC.

Program playback/Random playback (CD)

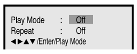
You can arrange the order of tracks on the disc.



VCD CD Program playback

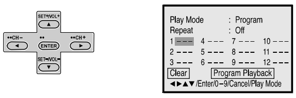
1 **Press PLAYMODE in the stop mode.**

SP/SLP
PLAYMODE



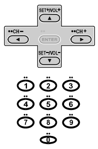
Play Mode : Off
Repeat : Off
◀▶▲▼/Enter/Play Mode

2 **Press ▲ or ▼ to select Play Mode, then press ◀ / ▶ or ENTER to select "Program".**

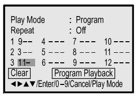


Play Mode : Program
Repeat : Off
1 --- 4 --- 7 --- 10 ---
2 --- 5 --- 8 --- 11 ---
3 --- 6 --- 9 --- 12 ---
Clear Program Playback
◀▶▲▼/Enter/0–9/Cancel/Play Mode

3 **Press ▲/▼ or ◀ / ▶ to select the programming position. Use Number buttons (0–9) to input the Track numbers.**

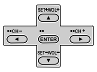


- To program others, repeat step 3.
- If you input a wrong number, press **CANCEL.**

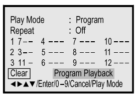


Play Mode : Program
Repeat : Off
1 9-- 4 --- 7 --- 10 ---
2 3-- 5 --- 8 --- 11 ---
3 11- 6 --- 9 --- 12 ---
Clear Program Playback
◀▶▲▼/Enter/0–9/Cancel/Play Mode

4 **Press ▲/▼ or ◀ / ▶ to select "Program Playback" and press ENTER.**

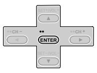


The programmes you selected will start to playback in the order.
To return to normal playback, select Play Mode: "Off".



Play Mode : Program
Repeat : Off
1 7-- 4 --- 7 --- 10 ---
2 3-- 5 --- 8 --- 11 ---
3 11- 6 --- 9 --- 12 ---
Clear Program Playback
◀▶▲▼/Enter/0–9/Cancel/Play Mode

■ **To cancel program playback**
Select "Clear" and press **ENTER.**



- The program is canceled when you open the disc tray or turn the power off.

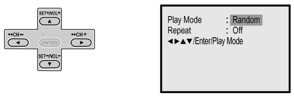
Note:
In playing back the Video CD with PBC, you can not set Program playback.

VCD CD Random playback

1 **Press PLAYMODE in the stop mode.**

SP/SLP
PLAYMODE

2 **Press ▲/▼ to select Play Mode, then press ◀ / ▶ to select "Random".**



Play Mode : Random
Repeat : Off
◀▶▲▼/Enter/Play Mode

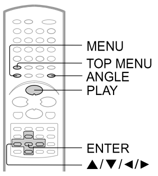
3 **Press PLAY.**

PLAY

The Random Playback will start.

Note:
In playing back the Video CD with PBC, you can not set Random playback.

Changing angles/Title selection/DVD menu



DVD Changing angles

When playing back a disc recorded with multi-angle facility, you can change the angle that you are viewing the scene from.

1 **Press ANGLE during playback.**

The current angle will appear.

COUNTER RESET
ANGLE

1/9

2 **Press ANGLE repeatedly until the desired angle is selected.**

COUNTER RESET
ANGLE

Note:
Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

DVD Title selection

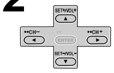
Two or more titles are recorded on some discs. If the title menu is recorded on the disc, you can select the desired title.

1 **Press TOP MENU during playback.**

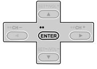
TOP MENU

Title menu appears on the screen.

2 **Press ▲/▼ or ◀ / ▶ to select the desired title.**



3 **Press ENTER or PLAY.**



The playback of the selected title will start.

PLAY

Note:
Depending on the DVD, you may not be able to select the title.
Depending on the DVD, a "title menu" may simply be called a "menu" or "title" in the instructions supplied with the disc.

DVD DVD menu

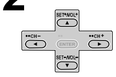
Some DVDs allow you to select the disc contents using the menu.
When you play back these DVDs, you can select the subtitle language and sound-track language, etc. using the menu.

1 **Press MENU during playback.**

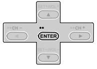
MENU

The DVD menu appears on the screen.
- Press **MENU** again to resume playback at the scene when you pressed **MENU.**

2 **Press ▲/▼ or ◀ / ▶ to select the desired item.**



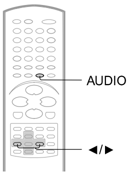
3 **Press ENTER.**



The menu continues to another screen. Repeat steps 2 and 3 to set the item completely.

Note:
Depending on the DVD, you may not be able to resume playback from the scene point when you pressed **MENU.**

Changing soundtrack language/ Setting surround sound



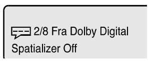
DVD VCD Changing soundtrack language

You can select the language when you play a multilingual disc.

1 **Press AUDIO during playback.**

AUDIO SELECT
AUDIO

The current soundtrack language will appear.

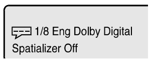


2/8 Fra Dolby Digital
Spatializer Off

2 **Press AUDIO repeatedly until the desired language is selected.**

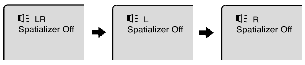
AUDIO SELECT
AUDIO

The on-screen display will disappear after a few seconds.



1/8 Eng Dolby Digital
Spatializer Off

■ **In case of Video CD playback**
Audio type changes as follows each time you press **AUDIO.**



LR
Spatializer Off
➡
L
Spatializer Off
➡
R
Spatializer Off

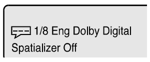
Notes:
- If the desired language is not heard after pressing the button several times, the language is not recorded on the disc.
- Changing soundtrack language is cancelled when you open the disc tray. The initial default language or available language will be heard if the disc is played back again.

DVD VCD CD Setting surround sound

This DVD/VCR equipped with a "SPATIALIZER VIRTUAL SURROUND". It can produce the effect of being in a cinema or a concert hall.

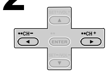
1 **During disc playback press AUDIO.**

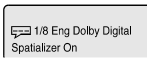
AUDIO SELECT
AUDIO



1/8 Eng Dolby Digital
Spatializer Off

2 **Press ◀ or ▶ to select "On".**





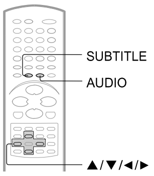
1/8 Eng Dolby Digital
Spatializer On

■ **To cancel Surround mode**:
Follow the left steps 1~2, then press ◀ or ▶ to select the "Off" position.

Note:
The "SPATIALIZER VIRTUAL SURROUND" is effective only for the sound of disc.

Certain audio features of this product manufactured under a license from Desper Products, Inc. *Spatializer*® and the circle-in-square device are trademarks owned by Desper Products, Inc.

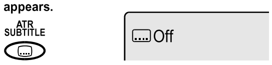
Setting subtitles/Karaoke playback



Turning the subtitles on and off

When playing back a disc recorded with subtitles, you can turn the subtitles on or off.

Press SUBTITLE during playback until "Off" appears.



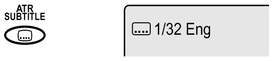
Off

Note:
Depending on the DVD, you may not be able to turn the subtitles on even if they are recorded on it. Depending on the DVD, you may not be able to turn the subtitles off.

Changing the subtitle language

You can select the language when playing back a disc recorded with multi-lingual subtitles.

1 **Press SUBTITLE repeatedly during playback until your desired language appears.**



1/32 Eng

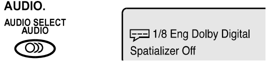
2 **The on-screen display will disappear after a few seconds.**

Notes:
- Changing subtitle language is cancelled when you open the disc tray.
- Depending on the DVD, you may not be able to change the subtitles even if multilingual subtitles are recorded on it. While playing the DVD, the subtitle may change when: -you open or close the disc tray -you change the title.
- In some cases, the subtitle language is not changed to the selected one immediately.

Karaoke playback

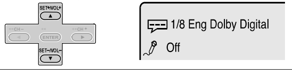
You can turn the vocal on or off recorded on the DVD KARAOKE.

1 **During DVD KARAOKE disc playback, press AUDIO.**



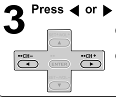
1/8 Eng Dolby Digital
Spatializer Off

2 **Press ▲ or ▼ until the KARAOKE symbol ( ) appears.**
- If you play non-Karaoke disc, the KARAOKE symbol ( ) does not appear.



1/8 Eng Dolby Digital
Off

3 **Press ◄ or ► to select "On" or "Off".**

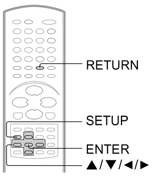


On : The primary vocal is output when it is recorded on the disc.
Off : The primary vocal is not output.

Notes:
- The vocal output feature is used during playback of Dolby Digital (multi-channel) recorded DVD KARAOKE discs. This feature allows you to turn off vocal audio tracks, or restore them for background accompaniment.
- When playing Karaoke, connect appropriate audio equipment such as an amplifier to the DVD/VCR.

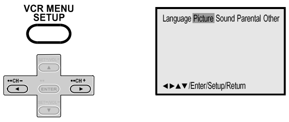
E.B.L. (Enhanced Black Level)

To select the black level of playback pictures, set your preference and monitor's ability.



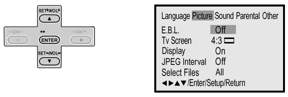
Setting E.B.L.

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



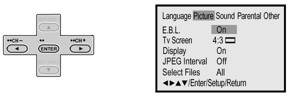
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "E.B.L.".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

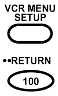
3 **Press ◄/► or ENTER to select "On" or "Off".**



Language Picture Sound Parental Other
E.B.L. On
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

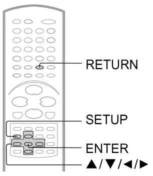
On: Enhanced grey scale (0 IRE cut off)
Off: Standard grey scale (7.5 IRE cut off)

4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



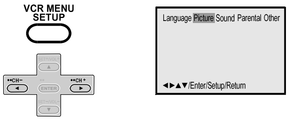
Setting the aspect ratio of TV screen

You can select the aspect ratio for your TV.
The following pages describe the setup/operation in DVD mode.



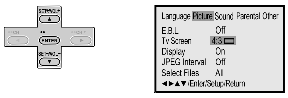
Setting the aspect ratio of TV screen

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



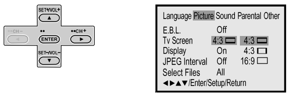
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "Tv Screen".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

3 **Press ► or ENTER.**
Press ▲ or ▼ to select your desired screen type, then press ENTER.



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3 4:3
Display On 4:3
JPEG Interval Off 16:9
Select Files All
◄►▲▼/Enter/Setup/Return

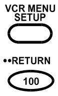
You have the following screen sizes to choose from:

4:3 ▭ Letter box:
Select this mode when connecting to a conventional TV. When playing back a wide screen-DVD disc, it displays the wide picture with black bands at the top and bottom of screen.

4:3 ▭ Pan scan:
It displays the wide picture on the whole screen with left and right edges automatically cut off.

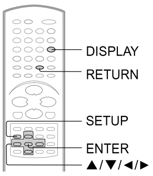
16:9 ▭ Wide:
Select this mode when connecting to a wide-screen TV. A wide screen picture is displayed full size.

4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Note:
If the DVD disc is not formatted in the pan & scan style, it displays 4:3 style.

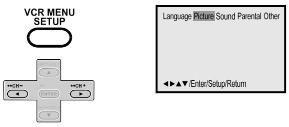
Setting on screen display/Status display of disc



Setting on screen display

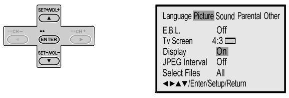
On screen display can be switched on or off when you press the buttons.

1 **Press SETUP in the stop mode or No Disc. Press ◄ or ► to select "Picture".**



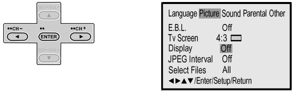
Language Picture Sound Parental Other
◄►▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select "Display".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display On
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

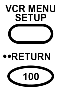
3 **Press ◄/► or ENTER to select "On" or "Off".**



Language Picture Sound Parental Other
E.B.L. Off
Tv Screen 4:3
Display Off
JPEG Interval Off
Select Files All
◄►▲▼/Enter/Setup/Return

On: On screen displays appear when you press the buttons (factory setting).
Off: On screen displays do not appear when you press any buttons.

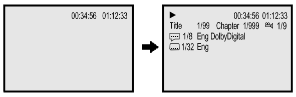
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Status display of disc

Each press of DISPLAY, the status display of the disc will appear on the screen and change as follows.

DVD

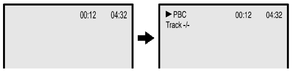


00:34:56 01:12:33

► 00:34:56 01:12:33
Title 1/99 Chapter 1/999 1/9
1/8 Eng DolbyDigital
1/32 Eng

To make status display disappear, press **DISPLAY** again.

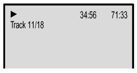
Video CD



00:12 04:32

►PBC 00:12 04:32
Track -/-

Audio CD

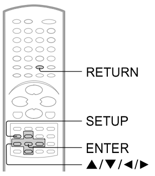


► 34:56 71:33
Track 11/18

When you playback the CD disc, the status display will appear on the screen and continue displaying.

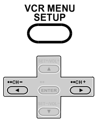
Dynamic Range Control

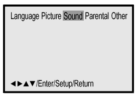
DRC (Dynamic Range Control) enables you to control the dynamic range so as to achieve a suitable sound for your equipment.



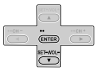
DVD Dynamic Range Control

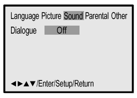
1 **Press SETUP in the stop mode.**
Press ◀ or ▶ to select "Sound".



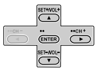

Language Picture Sound Parental Other
◀▶▲▼/Enter/Setup/Return

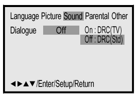
2 **Press ▼ or ENTER to select "Dialogue".**




Language Picture Sound Parental Other
Dialogue Off
◀▶▲▼/Enter/Setup/Return

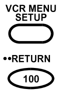
3 **Press ▶ or ENTER, then press ▲ or ▼ to select desired setting.**




Language Picture Sound Parental Other
Dialogue Off On : DRC(TV)
Off : DRC(Std)
◀▶▲▼/Enter/Setup/Return

On:	Loud sound such as explosion or the like is toned down slightly when played back. This makes it suitable for when it is connected to a stereo.
Off:	It plays back at the recording level on the disc.

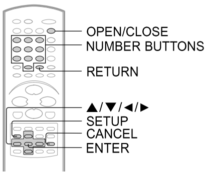
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Notes:
- This function works only during playback of Dolby Digital recorded discs.
- The level of Dynamic Range Reduction may differ depending on DVD video disc.

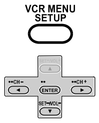
Parental control setting

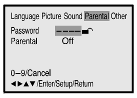
Some discs are specified not suitable for children. Such discs can be limited not to play back with the unit.



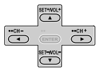
DVD Parental control setting

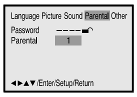
1 **Press SETUP in the stop mode or No Disc. Press ◀ or ▶ to select "Parental". Then press ▼ or ENTER.**




Language Picture Sound Parental Other
Password – – – –
Parental Off
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

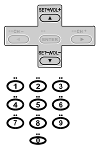
2 **Press ▲ or ▼ to select "Parental", then press ◀ or ▶ until the level you require appears.**

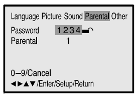



Language Picture Sound Parental Other
Password – – – –
Parental 1
◀▶▲▼/Enter/Setup/Return

- **Level Off:** The parental control setting does not function.
- **Level 8:** All DVD software can be played back.
- **Level 1:** DVD software for adults cannot be played back.
- Select from the level 1 to level 8. The limitation will be more severe as the level number is lower.

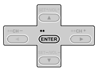
3 **Press ▲ or ▼ to select "Password".**
Press Number buttons (0–9) to input a 4-digit password.



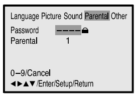

Language Picture Sound Parental Other
Password 1234
Parental 1
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

Be sure to remember this number!
- If you input a wrong number, press **CANCEL**.

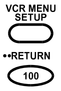
4 **Press ENTER to store the password.**



Note: Now the rating is locked and the setting cannot be changed unless you enter the correct password.


Language Picture Sound Parental Other
Password – – – –
Parental 1
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

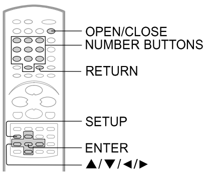
5 **Press SETUP or RETURN to remove the parental control screen.**



6 **Press OPEN/CLOSE to activate parental control setting.**

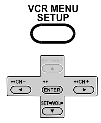
Notes:
- **If each setup (pages 57~66) has been completed, the unit can always be worked under the same conditions (especially with DVD discs).**
  Each setup will be retained in the memory if you turn the power off.
- Depending on the discs, the unit cannot limit playback.
- Some discs may not be encoded with specific rating level information though its disc jacket says "adult." For those discs, the age restriction will not work.

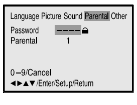
To change the parental level



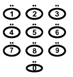
DVD To change the parental level

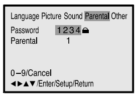
1 **Press SETUP in the stop mode or No Disc.**
Press ◀ or ▶ to select "Parental".
Then press ▼ or ENTER.




Language Picture Sound Parental Other
Password – – – –
Parental 1
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

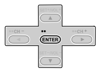
2 **Press Number buttons (0–9) to enter the password you have stored.**

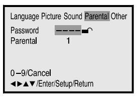



Language Picture Sound Parental Other
Password 1234
Parental 1
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

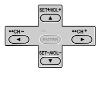
3 **Press ENTER.**

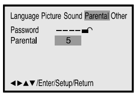
The rating is now unlocked.



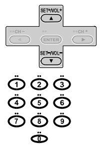

Language Picture Sound Parental Other
Password – – – –
Parental 1
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

4 **Press ▲ or ▼ to select "Parental", then press ◀ or ▶ to change the parental level.**

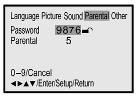



Language Picture Sound Parental Other
Password – – – –
Parental 5
◀▶▲▼/Enter/Setup/Return

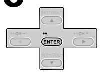
5 **Press ▲ or ▼ to select "Password", then press Number buttons (0–9) to enter the password.**



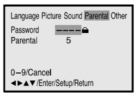
Note: You can change the password if you want.


Language Picture Sound Parental Other
Password 9876
Parental 5
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

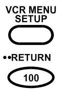
6 **Press ENTER.**



Now the parental level is changed and locked.


Language Picture Sound Parental Other
Password – – – –
Parental 5
0–9/Cancel
◀▶▲▼/Enter/Setup/Return

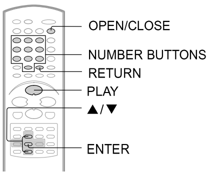
7 **Press SETUP or RETURN to remove the parental control screen.**



If you forget the password...
1. Press **OPEN/CLOSE** to open the disc tray.
2. Remove the disc.
3. Press **OPEN/CLOSE** again to close the disc tray. "No Disc" appears on the screen.
4. While holding **7** down on the remote control, press **STOP** on the front panel. "PASSWORD CLEAR" appears on the screen.
5. Enter a new password again.

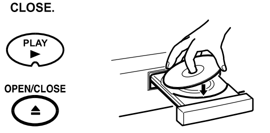
Temporary disabling of rating level by DVD disc

Depending on the DVD disc, the disc may try to temporarily cancel the rating level that you have set.
It is up to you to decide whether to cancel the rating level or not.

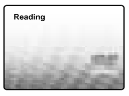


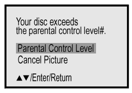
DVD Temporary disabling of rating level by DVD disc

1 **Load a DVD disc and press PLAY or OPEN/CLOSE.**

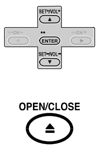


2 **If the DVD disc has been designed to temporarily cancel the Rating level, the screen which follows the "Reading" screen will change, depending on which disc is played. If you select "YES" with the ENTER key, "Your disc exceeds the parental control level#." screen will then appear.**

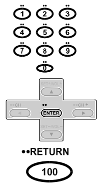



Your disc exceeds
the parental control level#.
Parental Control Level
Cancel Picture
▲▼/Enter/Return

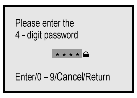
3 **If you wish to cancel the set rating level temporarily, select "Parental Control Level" with ▲ or ▼, then press ENTER. If the 4-digit password at step 2 on page 62 has been set, the password entering screen will appear as shown in step 4.**
Alternatively, if the password has not been set, playback will commence. If you don't know (or have forgotten) the password, select "Cancel Picture". The setting screen will disappear. Press OPEN/CLOSE to remove the disc.



4 **Enter the password with Number buttons (0–9). Then press ENTER.**



If you interrupt the entering, press **RETURN**.

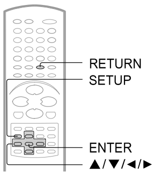

Please enter the
4 - digit password
* * * *
Enter/0 – 9/Cancel/Return

5 **Playback will commence if the entered password was correct.**

Note:
This temporary cancellation of rating level will be kept until the disc is ejected.
When the disc is ejected, the original rating level will be set again automatically.

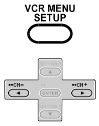
Setting OSD language

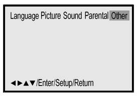
The setup language can be selected.



Setting OSD language

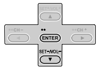
1 **Press SETUP in the stop mode or NO DISC. Press ◀ or ▶ to select "Other".**

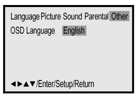



Language Picture Sound Parental Other

◀▶▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER to select "OSD Language".**

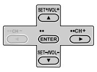


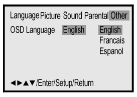

Language Picture Sound Parental Other

OSD Language English

◀▶▲▼/Enter/Setup/Return

3 **Press ▶ or ENTER and then press ▲ or ▼ to select desired language (e.g. English), then press ENTER.**

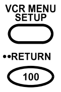



Language Picture Sound Parental Other

OSD Language English English
Francais
Espanol

◀▶▲▼/Enter/Setup/Return

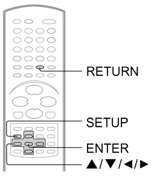
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



If the unit does not operate properly: Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again.

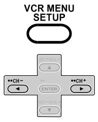
Setting language

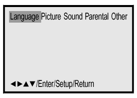
You can select the language of "Menu", "Subtitle" and "Audio" if their languages are recorded onto the disc more than one language.



Setting language

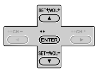
1 **Press SETUP in the stop mode or No Disc. Press ◀ or ▶ to select "Language".**

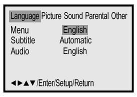



Language Picture Sound Parental Other

◀▶▲▼/Enter/Setup/Return

2 **Press ▼ or ENTER, then press ▲ or ▼ to select desired langugage item.**

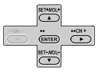


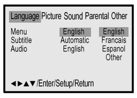

Language Picture Sound Parental Other

Menu English
Subtitle Automatic
Audio English

◀▶▲▼/Enter/Setup/Return

3 **Press ▶ or ENTER.**
Press ▲ or ▼ to select your desired language, then press ENTER.




Language Picture Sound Parental Other

Menu English English
Subtitle Automatic Francais
Audio English Espanol
Other

◀▶▲▼/Enter/Setup/Return

English, Francais, Espanol:
The selected language will be heard or seen.

Other:
Other language can be selected (see "Language code list" on page 69).

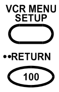
Original: (Audio)
The unit will select the first priority language of each disc.

Automatic: (Subtitle)

- The unit will automatically select the same language in the AUDIO setting.
- When the unit selects the same language as the AUDIO, the subtitles will not appear during playback.
- When you do not use the same language as the AUDIO, the subtitles will appear during playback.

Off: (Subtitle)
Subtitles do not appear.

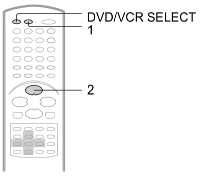
4 **To make SETUP screen disappear, press SETUP or RETURN while the SETUP screen is being displayed.**



Note:
If the selected language is not recorded on the disc, the first-priority language is selected.

Selecting PROGRESSIVE scan

The progressive scan capability provides the highest resolution pictures with less flicker and line structure.
If you are using the Component video jacks, but are connecting the DVD/VCR to a standard (analog) television, set PROGRESSIVE to Off.
If you are using the Component video jacks for connection to a TV or monitor that is compatible with a progressive scan signal, set PROGRESSIVE to On.

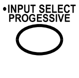


Selecting PROGRESSIVE scan

Preparation:

- Connect to a TV equipped with component jacks.
- Turn ON the TV and set it to the corresponding video input mode.
- Set the S-VIDEO/COMPONENT video selector switch on the rear panel to COMPONENT position.
- Press **DVD/VCR SELECT** to select the DVD mode. (The DVD indicator will light.)

1 **Press PROGRESSIVE in the stop mode.**



The progressive indicator "P" on the display window will light.

- The unit recognizes the picture source (film or video) of the current disc according to the disc information.

2 **Press PLAY to start playback.**

There are two types of source content in pictures recorded in DVD video discs: film content (pictures recorded from films at 24 frames per second) and video content (video signals recorded at 30 frames per second).

When the unit plays back a film source material, uninterlaced progressive output signals are created using the original information. When a video content is played back, the unit interleaves lines between the interlaced lines on each to create the interpolated picture and outputs as the progressive signal.

■ To select PROGRESSIVE scan Off

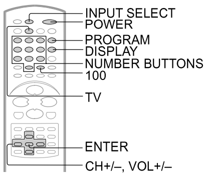
Press **PROGRESSIVE** in the stop mode.
The progressive indicator "P" on the display window will go off.

Notes:

- Some discs may not be played back with the progressive scanning mode correctly because of the disc characteristics or recording condition.
- If your TV does not accept the progressive scan format, the picture will appear scrambled if you select progressive scan output from the unit. In such a case, select PROGRESSIVE scan Off.
- Once PROGRESSIVE scan On, all other video outputs are disabled except component video outputs.
- You cannot make the progressive scanning mode active in following cases.
  – The unit is in the VCR mode.
  – The disc is played back in the DVD mode.
  – The S-VIDEO/COMPONENT video selector switch is set to S-VIDEO position.

Multi brand remote control

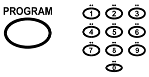
The remote control can be compatible with various brands of TV/Cable box/DSS® satellite receiver by setting their control codes. The TOSHIBA code has initially been set to control TOSHIBA TVs.



Setting TV control codes

1 **Press TV to set the remote control operating your TV.**

2 **While holding down PROGRAM enter the two digits of your TV's brand code (listed below) using Number buttons (0–9), then release PROGRAM.**



Point the remote control at your TV and use each button listed below to make sure that your TV is operated correctly.

POWER	To turn the TV on or off.
CH +/–	To select TV channels in the upper or lower direction.
VOL +/–	To adjust the sound level.
INPUT SELECT	To select an external source such as a VCR.
Number buttons (0–9)	To select TV channels. When selecting channels 1 to 9, first enter 0 and then desired number.
100	To substitute for 100 channel key.
DISPLAY	To turn on or off TV's screen display.
ENTER	To use for the TV's ENTER key.

Important
Some TV's may not respond to all the operations left, or may not be operated at all with this remote control. In this case, operate your TV with its own remote control.

Notes:

- For some brands, several control codes (brand codes) are allocated. Try each of them until the buttons work on your TV.
- If you replace the remote control's batteries, set the brand code again.

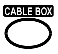
Table of TV brand codes

Brand name of your TV	Brand Code
Toshiba	01
Bell & Howell	09
Carver	10
Celebrity	03
Citizen	12
Curtis Mathes	09, 12
Dumont	14
Electro band	03
Emerson	09,11
Fisher	09
GE	02, 07, 11
Gibralter	14
Goldstar	11
Hallmark	11
Hitachi	06
Infinity	10
JBL	10
JCB	03
JVC	05
LXI	01, 02, 09, 10, 11
Magnavox	10
Marantz	10
Megatron	06, 11
Memorex	04, 09, 11
MGA	04, 11
Midland	02,07, 14
Mitsubishi	04, 11
Motorola	08
MTC	12
NAD	01, 11
Nikko	11
Optimus	09
Optonica	08
Panasonic	07, 10, 15

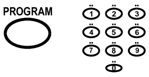
Brand name of your TV	Brand Code
Penney	01, 02, 07, 11, 12
Philco	10
Philips	10
Pioneer	16
Princeclub	12
Prism	07
Proscan	02
Proton	11
Pulser	14
Quasar	07, 15
Radio Shack	13
RCA	02
Realistic	09, 11, 13
Runco(NEC)	14
Samsung	11, 12
Sanyo	09
Scotch	11
Scott	11
Sears	01, 02, 09, 10, 11
Sharp	08, 13
Sony	03
Soundesign	11
Supreme	03
Sylvania	10
Tandy	08
Technics	07, 15
Techwood	07
Teknika	04,10,12
TMK	11
Victor	05
Vidikron	10
Vidtech	11
Wards	10, 11,13
Zenith	14

Setting Cable box/DSS® satellite receiver control codes

1 **Press CABLE BOX to set the remote control operating your Cable box/DSS® satellite receiver.**



2 **While holding down PROGRAM enter the two digits of your Cable box/DSS® satellite receiver brand code (listed below) using Number buttons (0–9), then release PROGRAM.**



Point the remote control at your Cable box/DSS® satellite receiver and use each button listed below to make sure that your Cable box/DSS® satellite receiver is operated correctly.

POWER	To turn the Cable box/DSS® satellite receiver on or off.
CH +/–	To select cable/satellite channels in the upper or lower direction. (Not applicable to some brands of cable bos/satellite receiver.)
Number buttons (0–9)	To select desired channels to record.
ENTER	To use for the Cable box's ENTER key.

(Some cable boxes require you to use 100 button as the enter button.)

Important

Some Cable box/DSS® satellite receiver may not respond to all the operations left, or may not be operated at all with this remote control. In this case, operate them with its own remote control.

Notes:
- For some brands, several control codes (brand codes) are allocated. Try each of them until the buttons work on your Cable box/DSS® satellite receiver.
- If you replace the remote control's batteries, set the brand code again.

Table of Cable box brand codes

Brand name of your cable box	Brand Code
Toshiba	36
Anvision	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Archer	1, 20, 21, 29, 42, 44, 63, 88, 91
Cablestar	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Cableview	30, 42, 44, 52, 63, 88
Citizen	30, 42, 44, 52, 63, 88
Curtis	8, 9, 56, 61
Diamond	1, 20, 21, 29, 42, 44, 63, 88, 91
Eagle	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Eastern	26, 28
GC Brand	30, 42, 44, 52, 63, 88
Gemini	4, 30, 85
General Instrument	1, 2, 3, 4, 31, 34, 55, 83, 85, 91
Hamlin	14, 15, 28, 41
Hitachi	31, 79, 80
Jerrold	1, 2, 3, 4, 31, 34, 55, 85, 91
Macom	31, 79, 80
Magnavox	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Movietime	29, 32, 38, 39, 42, 44, 88
NSC	29, 32, 38, 39, 42, 44, 88
OAK	10, 11, 12, 13, 46
OAK Sigma	10, 11, 12, 13, 46
Panasonic	6, 8, 16, 17

Brand name of your cable box	Brand Code
Philips	4, 13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Pioneer	5, 6, 78
Pulsar	30, 42, 44, 52, 63, 88
Randtek	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
RCA	6, 8, 16, 17
Realistic	44, 88
Regal	14, 23, 41, 84
Regency	26, 28
Rembrandt	29, 32, 38, 39, 42, 44, 88
Samsung	4, 6, 32, 42, 78
Scientific Atlanta	8, 9, 56, 61
Sheritech	27
SL Mark	4, 6, 32, 42, 78
Sprucher	6, 8, 16, 17
Stargate	4, 6, 30, 32, 42, 44, 52, 63, 78, 88
Sylvania	19
Teknika	74
Telecaption	77
Teleview	4, 6, 32, 42, 78
Texscan	18, 19
Tocom	1, 33, 34, 42, 48, 49, 73, 91
Unica	1, 20, 21, 29, 42, 44, 63, 88, 91
Universal	29, 42, 43, 44, 52, 63, 82, 88
Videoway	7, 23, 45, 50, 84
Viewstar	13, 20, 21, 22, 23, 24, 25, 26, 58, 62, 84
Warner Amex	6
Zenith	7, 23, 45, 50, 84

Table of DSS® satellite receiver brand codes

Brand name	Brand code
Toshiba	99
RCA	98
Sony	97
Magnavox	95, 96

Brand name	Brand code
Draker	94
Primestar	93
Hitachi	92, 89
Panasonic	90

Language code list

Enter the appropriate code number for the initial settings "Menu", "Subtitle" and/or "Audio" (65).

Language Name	Code	Language Name	Code	Language Name	Code	Language Name	Code
Abkhazian	1112	Fiji	1620	Lingala	2224	Singhalese	2919
Afar	1111	Finnish	1619	Lithuanian	2230	Slovak	2921
Afrikaans	1116	French	1628	Macedonian	2321	Slovenian	2922
Albanian	2927	Frisian	1635	Malagasy	2317	Somali	2925
Amharic	1123	Galician	1722	Malay	2329	Spanish	1529
Arabic	1128	Georgian	2111	Malayalam	2322	Sundanese	2931
Armenian	1835	German	1415	Maltese	2330	Swahili	2933
Assamese	1129	Greek	1522	Maori	2319	Swedish	2932
Aymara	1135	Greenlandic	2122	Marathi	2328	Tagalog	3022
Azerbaijani	1136	Guarani	1724	Moldavian	2325	Tajik	3017
Bashkir	1211	Gujarati	1731	Mongolian	2324	Tamil	3011
Basque	1531	Hausa	1811	Nauru	2411	Tatar	3030
Bengali; Bangla	1224	Hebrew	1933	Nepali	2415	Telugu	3015
Bhutani	1436	Hindi	1819	Norwegian	2425	Thai	3018
Bihari	1218	Hungarian	1831	Oriya	2528	Tibetan	1225
Breton	1228	Icelandic	1929	Panjabi	2611	Tigrinya	3019
Bulgarian	1217	Indonesian	1924	Pashto, Pushto	2629	Tonga	3025
Burmese	2335	Interlingua	1911	Persian	1611	Turkish	3028
Byelorussian	1215	Irish	1711	Polish	2622	Turkmen	3021
Cambodian	2123	Italian	1930	Portuguese	2630	Twi	3033
Catalan	1311	Japanese	2011	Quechua	2731	Ukrainian	3121
Chinese	3618	Javanese	2033	Rhaeto-Romance	2823	Urdu	3128
Corsican	1325	Kannada	2124	Romanian	2825	Uzbek	3136
Croatian	1828	Kashmiri	2129	Russian	2831	Vietnamese	3219
Czech	1329	Kazakh	2121	Samoan	2923	Volapük	3225
Danish	1411	Kirghiz	2135	Sanskrit	2911	Welsh	1335
Dutch	2422	Korean	2125	Scots Gaelic	1714	Wolof	3325
English	1524	Kurdish	2131	Serbian	2928	Xhosa	3418
Esperanto	1525	Laothian	2225	Serbo-Croatian	2918	Yiddish	2019
Estonian	1530	Latin	2211	Shona	2924	Yoruba	3525
Faroese	1625	Latvian, Lettish	2232	Sindhi	2914	Zulu	3631

Before calling service personnel

Check the following guide for the possible cause of a problem before contacting service.

SYMPTOMS	POSSIBLE SOLUTIONS	PAGE
DVD/VCR		
DVD/VCR does not operate.	• Make sure the power cord is plugged in. • Try another AC outlet. • Power is off, check fuse or circuit breaker. • Unplug unit, then plug it back in. • Select the DVD or VCR mode before operating.	5 – – 5 30,42
No picture.	• Antenna connection is not correct or antenna cable is disconnected. • The video channel is not in the correct position or the TV is not set to the video channel 3 or 4. • Check the unit is connected correctly. • The video input selector of the TV is not set to VIDEO. Set to VIDEO (or equivalent). • Channel is set to the external mode.	14~17 22 14~19 – –
No sound.	• Check the unit is connected correctly. • Check the input selector of the amplifier is set properly. • The unit is in the Special playback mode.	14~19 – 31,44
The remote control does not function.	• Aim the remote control at the remote sensor. • Operate within Approx. 7 Meters or reduce the light in the room. • Clear the path of the beam. • The batteries are weak. Replace the batteries. • Check the batteries are inserted correctly.	13
No Cable TV reception.	• Check all Cable TV connections. • Station or Cable TV system problems, try another station.	16,17
VCR		
TV recording does not work.	• The erase prevention tab of the video cassette is broken off. • The unit is in the external input mode.	29,34
Timer recording does not work.	• The time is not set correctly. • The recording start/end time is not set correctly. • The TIMER REC has not been pressed (⏲ is not lit).	24 37 37
Noise bars on screen.	• Tracking adjustment beyond range of automatic tracking circuit. Try Manual tracking adjustment. • Video heads are dirty. • The tape is worn or damaged.	31 31 –
DVD		
Display is not shown in your language.	• Select proper language in the menu options.	64
Playback doesn't start.	• No disc is inserted. • The disc may be dirty. Clean up the disc. • The unit cannot play DVD-ROMs, etc.	42 7 8
Stopping playback, slow-motion play, repeat play, or memory play, etc. cannot be performed.	• Some discs may not do some of the functions.	–
No picture, or the screen is blurred or divided into two parts.	• The S-VIDEO/COMPONENT selector is not set correctly. • The PROGRESSIVE scan is On through the unit is connected to a TV via the VIDEO OUT or the S-VIDEO OUT jack.	19 66
No 4:3 (16:9) picture.	• The setup does not match your TV.	58
No on-screen display.	• Select Display "On".	59
No surround sound.	• The setup does not match your stereo system.	20
The unit or remote operation key is not functioning.	• Turn off the unit and unplug the AC power cord for several minutes, then replug it.	–
Playback does not start when the title is selected.	• Check the Parental setup.	61,62
Audio soundtrack and/or subtitle language is not changed when you play back a DVD.	• Multilingual language is not recorded on the DVD disc.	65
No subtitle.	• Some discs have no subtitles. • Subtitles are cleared. Press SUBTITLE.	56
Angle cannot be changed.	• Multi-angles are not recorded on the DVD disc.	54
✋ appears on the screen.	• The function is prohibited with the unit or the disc.	44

Specifications

General

Power supply	AC 120 V 60 Hz
Power consumption	Operation: 18 W, Stand by: 2 W
Weight	7.7 lbs (3.5 kg)
Dimensions	Width: 16-15/16 inches (430 mm) Height: 3-7/8 inches (99 mm) Depth: 8-13/16 inches (224.5 mm)
Tuner	181 channel freq. synthesized VHF 2-13 UHF 14-69 Cable TV 113 Channels
Antenna input/output	UHF/VHF In/Out: 75 Ω coaxial
RF channel output	Channel 3 or 4, Switchable
Color system	NTSC
Video head	4 Rotary heads
Audio track	Hi-Fi sound - 2 Tracks / MONO sound - 1 Track
Hi-Fi frequency response	20 Hz to 20,000 Hz
Hi-Fi dynamic range	More than 90dB
F.FWD/REW time at 25˚C (77˚F)	Approx. 1 minute and 48 seconds (with T-120 Cassette Tape)
Applicable disc	DVD (12 cm, 8 cm), CD (12 cm, 8 cm)
Frequency range	DVD: 4 Hz-22 kHz, CD: 4 Hz-20 kHz
S/N ratio	90dB (DVD)
Harmonic distortion	0.02% (DVD)
Wow and flutter	Less than 0.01% Wrms
Operating conditions	Temperature: 5˚C-40˚C (41˚F-104˚F), Operating status: Horizontal

Input/Output

DVD/VCR	
Video input	1.0 V (p-p), 75 Ω, negative sync., pin jack x 2
Video output	1.0 V (p-p), 75 Ω, negative sync., pin jack x 1
Audio input	–8 dBm, 50 kΩ, negative sync., pin jack (L/R) x 2
Audio output	–8 dBm, 1 kΩ, negative sync., pin jack (L/R) x 1
DVD	
S-video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., Mini DIN 4-pin x 1 (C) 0.286 V (p-p), 75 Ω
Component video output	(Y) 1.0 V (p-p), 75 Ω, negative sync., pin jack x 1 (P_B)/(P_R) 0.7 V (p-p), 75 Ω, pin jack x 2
Audio output (BITSTREAM/PCM COAXIAL)	0.5 V (p-p), 75 Ω, pin jack x 1
Audio output (BITSTREAM/PCM OPTICAL)	Optical connector x 1
Audio output (ANALOG)	–12 dB, 1 kΩ, pin jacks (L, R) x 1
S-VIDEO/COMPONENT video selector	Slide switch x 1

Supplied accessories

Audio/video cable	1
Remote control (SE-R0128)	1
Batteries (AAA)	2
75 ohm coaxial cable	1

- Designs and specifications are subject to change without notice.

TOSHIBA

- IMPORTANT -
CANADIAN WARRANTY INFORMATION
GARANTIE CANADIENNE

STANDARD WARRANTY

TYPE OF SET	DVD Player DVD/VCR Combination Home Theatre in a Box DVD Recorder Portable DVD
WARRANTY PERIOD	12 MONTHS

CANADIAN WARRANTY

Toshiba of Canada Limited (TCL) makes the following limited warranties to original consumers in Canada. Please retain your “Bill of Sale” as proof of purchase. **To obtain a “Canadian Warranty” please register online at www.toshiba.ca**.

Canadian Warranty Information

Should service be required on this unit during the one year warranty period, TCL's option will be to repair or exchange the defective unit. It will be necessary to follow this procedure:

Contact: Toshiba of Canada Limited at the Consumer Electronics Group, customer support line.
Phone: 1-800-268-3404
Email: ceg_customer_support@toshiba.ca

All in-warranty repairs must be made by an authorized TCL service centre.

For service exchange TCL will arrange to have the unit picked up by courier and a replacement unit will be returned via same courier. (Note: A major credit card number will be required as a charge of $25.00 will apply if no fault is found with the unit.)
During the first 3 months of ownership, a new unit will be supplied as a replacement. During the remainder of the warranty period a service-renewed unit will be supplied.
The original “Bill of Sale” must be provided as proof of purchase (it will be returned with the replacement unit.)
This 12-month warranty will be strictly adhered to.
Out of warranty units should be repaired by a TCL authorized service centre.
Note: It is the responsibility of the owner to ensure proper packaging. Should damage in shipping occur, due to poor packaging, a charge back for the repair will result.
This warranty applies to the original purchaser only and is not transferable.
This warranty does not apply to sets that have been subjected to misuse, neglect, accident, physical damage or acts of nature.
Sets with the serial number removed, altered, replaced or defaced will not be covered by this warranty.
The warranties from TCL are effective only if the product is purchased in Canada from an authorized TCL dealer and operated in Canada.
Products utilized for rental or commercial purposes are not covered by this warranty.
This warranty is in lieu of all other warranties, guaranties or agreements, whether expressed or implied, and no person, agent distributor, dealer, service centre or company is authorized to change, modify or extend its terms in any manner whatsoever.

GARANTIE NORMALE

TYPE D’APPAREIL	Lecteur DVD DVD/magnétoscope combo Cinéma maison dans une boîte Enregistreur DVD DVD Portatif
DURÉE DE LA GARANTIE:	12 MOIS

GARANTIE CANADIENNE

1) Toshiba du Canada Limitée (TLC) offre au Canada les garanties limitées suivantes aux consommateurs originaux. Veuillez conserver votre « facture » comme preuve d’achat. **Pour obtenir une garantie canadienne, veuillez vous inscrire en ligne à www.toshiba.ca**

Information sur la garantie Canadienne

Si vous avez besoin de service sur cet appareil au cours le l'année de garantie, Toshiba du Canada Limitée aura l'op tion de réparer ou échanger l'appareil défectueux. Vous devrez suivre la procédure suivante:

Contact: Toshiba du Canada Limitée au Groupe Électronique aux consommateurs, service à la clientèle.
Tél: 1-800-268-3404
Courriel: ceg_customer_support@toshiba.ca

Toutes les réparations au cours de la garantie doivent être faites par un centre de service autorisé Toshiba.

Pour un échange TCL s'assurera qu'un service de courrier ramassera l'unité et qu'un appareil de remplacement soit expédié par le même service de courrier.
(Note: Un numéro de carte de crédit sera requis car une charge de 25,00$ sera appliquée si toutefois l’appareil n’avait aucun problème de fonctionnement.)
Une nouvelle unité sera fournie comme remplacement durant les premiers 3 mois de propriété. Par contre durant la balance de la garantie une unité remise à neuf sera fournie.
La «facture originale doit être fournie comme preuve d’achat (elle vous sera retournée avec l’unité de remplacement.)
Cette garantie de 12 mois sera strictement adhérée.
Les unités hors de garantie devraient être réparées par un centre de service autorisé Toshiba.
Note: C’est la responsabilité du propriétaire de s’assurer que l’emballage est adéquat. Vous serez facturé pour toutes réparations causées par des dommages encourus à cause d’un emballage non adéquat.
Cette garantie est octroyée à l’acheteur initial et n’est pas transférable. Cette garantie ne s’aplique pas aux appareils qui ont été sujets aux abus, négligences, accidents, dommages physiques ou actes naturels.
Les appareils dont le numéro de série a été enlevé, altété, remplacé ou barbouillé ne sont pas couverts par cette garantie.
Les garanties de TCL sont valides seulement sur les unités sont achetées et utilisées au Canada d'un marchand autorisé TCL.
Cette garantie ne couvre pas les produits de location ou à usage commercial. Cette garantie remplace toutes autres garanties ou ententes exprimées ou sous-entendues. Aucune personne, agent, distributeur, concessionaire ou compagnie n’est autorisé à changer, modifier ou prolonger les termes de cette garantie de quelque façon que ce soit.

Toshiba of Canada Limited 191 McNabb Street Markham, Ontario L3R 8H2

CAUTION

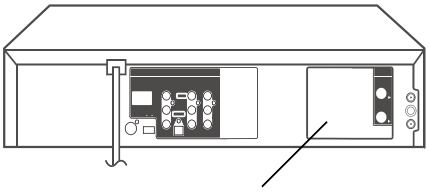
THIS DIGITAL VIDEO PLAYER EMPLOYS A LASER SYSTEM.

TO ENSURE PROPER USE OF THIS PRODUCT, PLEASE READ THIS SERVICE MANUAL CAREFULLY AND RETAIN FOR FUTURE REFERENCE. SHOULD THE UNIT REQUIRE MAINTENANCE, CONTACT AN AUTHORIZED SERVICE LOCATION-SEE SERVICE PROCEDURE.

USE OF CONTROLS, ADJUSTMENTS OR THE PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

TO PREVENT DIRECT EXPOSURE TO LASER BEAM, DO NOT TRY TO OPEN THE ENCLOSURE. VISIBLE LASER RADIATION MAY BE PRESENT WHEN THE ENCLOSURE IS OPENED. DO NOT STARE INTO BEAM.

Location of the required Marking
The rating sheet and the safety caution are on the rear of the unit.



CERTIFICATION: COMPLIES WITH FDA RADIATION PERFORMANCE STANDARDS, 21 CFR SUBCHAPTER J.

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity.
Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, a life of product may become short.
Please perform the following measure against static electricity, be careful of destruction of a laser diode enough at the time of repair, and work.

- It works on the desk which performed measures against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

IMPORTANT SERVICE SAFETY INFORMATION

Safety precautions to be followed during servicing:

1. Parts marked with an ⚠ are critical parts for safety. Replace only with the one described in the parts list.
2. Before returning the DVD product to the customer, make the appropriate leakage current check or resistance measurements to ensure that exposed parts are properly insulated from the supply circuit.

A leakage current check is recommended for this unit. Plug the AC line cord directly into a 120V 60Hz AC outlet (do not use an isolation transformer for this check). Use a leakage current tester (Fig. 1) or a metering system which complies with Underwriters Laboratories (UL 1409). Measure for current from all exposed metal parts of the cabinet to a known earth ground: particularly, any exposed metal part having a return path to the chassis. Any current measured must not exceed 0.5mA. Any measurement not within the limits outlined above are indicative of a potential shock hazard and corrective action must be taken before returning the unit to the customer.

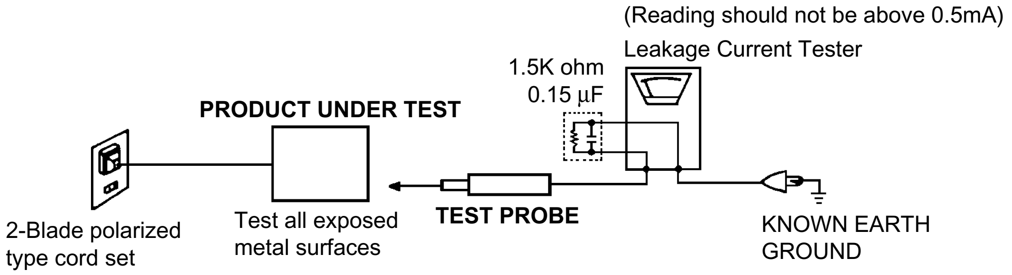

(Reading should not be above 0.5mA)
Leakage Current Tester
1.5K ohm
0.15 µF
PRODUCT UNDER TEST
TEST PROBE
2-Blade polarized type cord set
Test all exposed metal surfaces
KNOWN EARTH GROUND

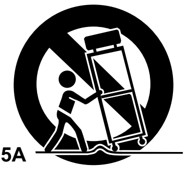
Fig. 1 AC Leakage Test

IMPORTANT SAFEGUARDS

1. **READ INSTRUCTIONS**
   All the safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS**
   The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS**
   All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS**
   All operating and use instructions should be followed.
5. **CLEANING**
   Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **ATTACHMENTS**
   Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.
7. **WATER AND MOISTURE**
   Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.
8. **ACCESSORIES**
   Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3125A

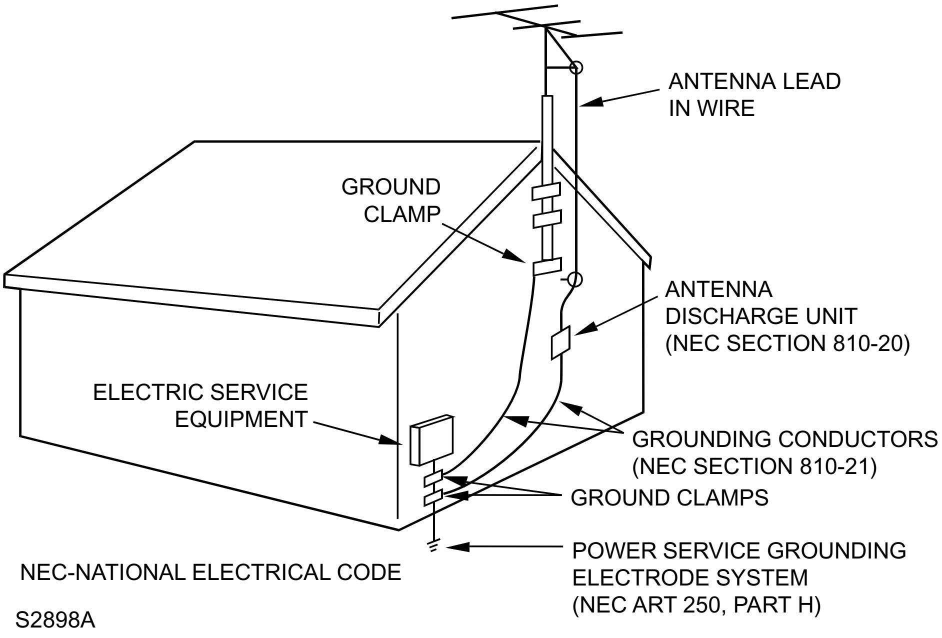
9. **VENTILATION**
   Slots and openings in the cabinet and in the back or bottom are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. **POWER SOURCES**
    This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.
11. **GROUNDING OR POLARIZATION**
    This unit is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
12. **POWER-CORD PROTECTION**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **LIGHTNING**
    To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.
14. **POWER LINES**
    An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.
15. **OVERLOADING**
    Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.
16. **OBJECT AND LIQUID ENTRY**
    Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

IMPORTANT SAFEGUARDS (CONTINUED)

17. **OUTDOOR ANTENNA GROUNDING**
    If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
18. **SERVICING**
    Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. **DAMAGE REQUIRING SERVICE**
    Unplug this unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the unit.
    c. If the unit has been exposed to rain or water.
    d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
    e. If the unit has been dropped or the cabinet has been damaged.
    f. When the unit exhibits a distinct change in performance, this indicates a need for service.
20. **REPLACEMENT PARTS**
    When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or those that have the same characteristics as the original parts.
    Unauthorized substitutions may result in fire, electric shock or other hazards.
21. **SAFETY CHECK**
    Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
22. **WALL OR CEILING MOUNTING**
    The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
23. **HEAT**
    The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
24. **DISC TRAY**
    Keep your fingers well clear of the disc tray as it is closing. It may cause serious personal injury.
25. **CONNECTING**
    When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause an electric shock and serious personal injury. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.
26. **SOUND VOLUME**
    Reduce the volume to the minimum level before you turn on the product. Otherwise, sudden high volume sound may cause hearing or speaker damage.
27. **SOUND DISTORTION**
    Do not allow the product output distorted sound for a longtime. It may cause speaker overheating and fire.
28. **HEADPHONES**
    When you use the headphones, keep the volume at a moderate level. If you use the headphones continuously with high volume sound, it may cause hearing damage.
29. **LASER BEAM**
    Do not look into the opening of the disc tray or ventilation opening of the product to see the source of the laser beam. It may cause sight damage.
30. **DISC**
    Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
31. **NOTE TO CATV SYSTEM INSTALLER**
    This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

IMPORTANT SAFEGUARDS (CONTINUED)

EXAMPLE OF ANTENNA GROUNDING AS PER THE NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC-NATIONAL ELECTRICAL CODE
S2898A

WHEN REPLACING DVD DECK

[When the removal of the DVD Deck]

Before removing Pick Up PCB and DVD PCB connector, make the short circuit on the position as shown **Fig. 1** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.

[When the installation of the DVD Deck]

Remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

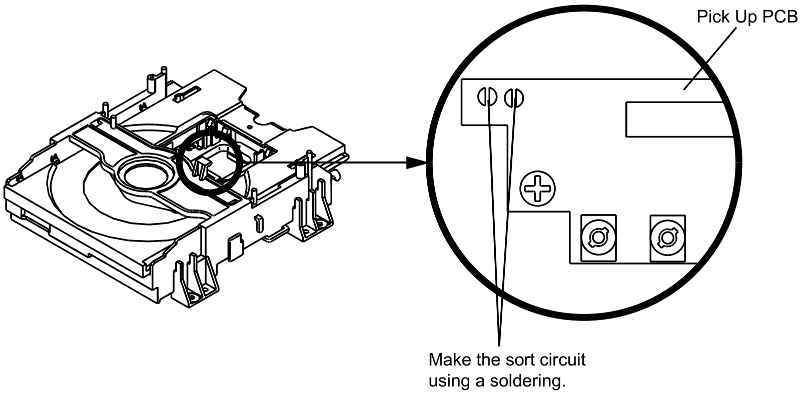

Pick Up PCB
Make the sort circuit
using a soldering.

Fig. 1

TAPE REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet, Front Cabinet and DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Remove the screw ① of the Deck Chassis and remove the Loading Motor. **(Refer to Fig. 2)**
3. Rotate the Pinch Roller Cam in the direction of the arrow by hand to slacken the Video Tape.
4. Rotate the Clutch Ass'y either of the derections to wind the Video Tape in the Cassette Case.
5. Repeat the above step 3~4. Then take out the Video Cassette from the Deck Chassis. Be careful not to scratch on the tape.

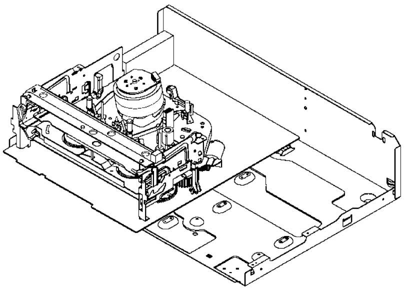


Fig. 1

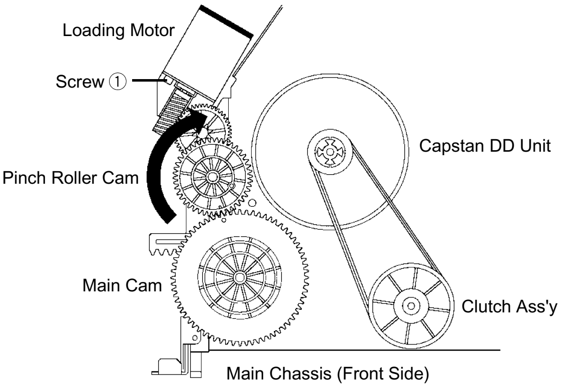


Fig. 2

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Back Cabinet and TV//DVD/VCR Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Rotate the Main Gear in the direction of the arrow by hand. **(Refer to Fig. 1)**
3. Draw the Tray.

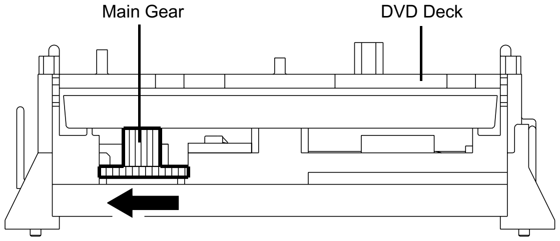


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the '7' key on the remote control unit.
3. Simultaneously press and hold the 'STOP' key on the front panel.
4. Hold both keys for more than 3 seconds.
5. The On Screen Display message 'PASSWORD CLEAR' will appear.
6. The 4 digit password has now been cleared

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GENERAL SPECIFICATIONS
(SD-V392SUA)

G-1	**Outline of the product**				DVD VIDEO PLAYER & VHS Player / Recorder
G-2	**DVD System**	Color System			NTSC
		Disc			DVD, CD-DA, CD-R/RW, VIDEO CD, SVCD, DVD-R/RW (VIDEO FORMAT ONLY)
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Disc Loading
			Motor		3 Motors
		Pick up			1-Lens 2-Beams System
		Playback time (Max)	DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			VIDEO CD		74min
		Search speed			Fwd 4 steps
				Actual	2-120 times (DVD)
					4-40 times (CD)
					Rev 4 steps
				Actual	2-120 times (DVD)
					4-40 times (CD)
		Slow speed			Fwd 1/7-1/2 times
				Actual	--
					Rev --
				Actual	--
G-3	**VCR System**	System			VHS Player / Recorder
		Video System			NTSC
		Hi-Fi STEREO			Yes
		NTSC PB(PAL60Hz)			No
		Deck	DECK		OVD-7
			Loading System		Front
			Motor		3
		Heads	Video Head		4Head
			FM Audio Head		2Head
			Audio / Control		Mono/Yes
			Erase (Full Track Erase)		Yes
			Erase (Normal Audio Track Erase)		No
		Tape Speed	Rec	PAL	-
				NTSC	SP/SLP(EP)
			Play	PAL	-
				NTSC	SP/SLP(EP)
		Fast Forward / Rewind Time (Approx.) at 25oC			FF:1'48"/REW:1'48"
				with Cassette	T-120
		Forward/Reverse Picture Search	NTSC or PAL-M		SP/LP/SLP(EP) = 3x,5x / 7x,9x / 9x,15x
			PAL or SECAM		-
		Frame Advance			Yes
		Slow Speed			1/10
G-4	**Tuning System**	Broadcasting System			US System M
		Tuner and Receive CH	System		1Tuner
			Destination		US (w/CATV)
			Tuning System		F-Synth
			Input Impedance		VHF/UHF 75 OHM
			CH Coverage		2-69,4A,A-5~ A-1,A~I, J~ W, W+1-W+84
		Intermediate Frequency	Picture (FP)		45.75 MHz
			Sound (FS)		41.25 MHz
			FP-FS		4.50 MHz
		Preset CH			-
		RF Converter Output			Yes
			Channel		3 or 4 ch
			Level / Impedance		66 dBu / 75 Ohm
			Sound Selector		No
		Stereo / Dual TV Sound			US-ST
		Tuner Sound Muting			Yes
G-5	**Power**	Power Source	AC		120V 60Hz
			DC		-
		Power Consumption			18 W at 120V 60Hz
			Stand by		2 W at 120V 60Hz
			Per Year		-- W
		Protector	Power Fuse		Yes
			Safety Circuit		Yes
			IC Protector(Micro Fuse)		No

GENERAL SPECIFICATIONS
(SD-V392SUA)

G-6	**Regulation**		Safety	UL / CSA	
			Radiation	FCC / IC	
			Laser	DHHS	
G-7	**Temperature**		Operation	5oC - 40oC	
			Storage	-20oC - 60oC	
G-8	**Operating Humidity**			Less than 80% RH	
G-9	**Signal**	Video Signal	Output Level	1 V p-p/75 ohm (DVD,VCR)	
			S/N Ratio (Weighted)	65 dB(DVD)	50 dB(VCR)
			Horizontal Resolution	500 Lines (DVD)	230 Lines(VCR Mode)
		RGB Signal	Output Level	-	
		Audio Signal	Input Level Microphone	-	
			Input Level Line	-8 dBm/ 50k ohm (VCR, 0dBm=0.775Vrms)	
			Output Level Line	-8 dBm/ 1k ohm (VCR, 0dBm=0.775Vrms) -12dBm/ 1k ohm (DVD, -20dBFs 0dBFs=2.0Vrms)	
			Digital Output Level	0.5 V p-p / 75 ohm(DVD)	
			S/N Ratio at (Weighted)	90dB(DVD), 42dB(VCR at SP)	
			Harmonic Distortion (1KHz) Typical	0.02% (1KHz) (DVD) , 1.5% (1KHz) (VCR)	
			Frequency Response : DVD Mode at DVD	4 Hz - 22 KHz	
			DVD Mode at VIDEO CD	4 Hz - 20 KHz	
			DVD Mode at CD	4 Hz - 20 KHz	
			VCR Mode at SP	100Hz - 10 KHz	
			VCR Mode at LP	-	
			VCR Mode at SLP	100Hz - 4 KHz	
		Hi-Fi Audio Signal	Dynamic Range : More than	90dB	
			Frequency Response	20Hz ~20kHz	
			Wow And Flutter : Less than	0.01 %Wrms	
			Channel Separation : More than	60 dB	
			Harmonic Distortion : Less than	0.01	

GENERAL SPECIFICATIONS
(SD-V392SUA)

G-10	**On Screen Display (DVD)**	Menu			Yes	
			Menu Type		Character	
			Language		Yes	
				Menu	Yes	
				Subtitle	Yes	
				Audio	Yes	
			Picture		Yes	
				TV Screen Size	Yes	
				OSD Display On/Off	Yes	
				JPEG Interval	Yes	
				Select Files	Yes	
				E.B.L. (Enhanced Black Level)	Yes	
			Sound		Yes	
				DRC (Dynamic Range Control)		No
				Dialogue On:DRC(TV)/ Off:DRC(Std)	Yes	
				dts Decode		No
				Output (5.1ch/2ch)		No
				Surround On/Off		No
				Center On/Off		No
				Sub Woofer On/Off		No
			Parental		Yes	
				Password Lock/Unlock	Yes	
				Rating Level	Yes	
			Other		Yes	
				OSD Language (Set up Language)	Yes	
				Output (RGB / Composite)		No
			Open		Yes	
			Close		Yes	
			No disc		Yes	
			Reading		Yes	
			Play		Yes	
			Still/Pause		Yes	
			Stop		Yes	
			Prohibit Mark		Yes	
			Step		Yes	
			Skip (>>|)		Yes	
			Skip (|<<)		Yes	
			Random		Yes (CD, VIDEO CD,SVCD MP3, WMA, JPEG)	
			Repeat		Yes	
			Slow+ ##		Yes	
			Slow- ##			No
			Search+ ##		Yes	
			Search- ##		Yes	
			Jump		Yes	
			Resume		Yes	
			Title No.		Yes	
			Chapter No.		Yes	
			Track No.		Yes	
			Time		Yes	
			Subtitle No.		Yes	
			Angle No.		Yes	
			Vocal On/Off		Yes	
			Audio No.		Yes	
			Audio Stereo L/R		Yes (VIDEO CD, SVCD)	
			Zoom		Yes	
			Marker No.		Yes	
			Spatializer (N-2-2)		Yes	
			Program Play Back		Yes (CD, VIDEO CD, SVCD, MP3, WMA, JPEG)	
			MP3/WMA/JPEG	Folder Name	Yes	
				File Name	Yes	
				File No	Yes	
				Time	Yes (MP3, WMA Only)	
				Track No	Yes	
			Progressive Scan Out ON/OFF		Yes	

GENERAL SPECIFICATIONS
(SD-V392SUA)

	On Screen Display(VCR)	Menu				Yes
			Menu Type			Character
			Timer Rec Set			Yes
			Auto Repeat On/Off			Yes
			SAP On/Off			Yes
			CH Set-Up			Yes
				TV/CABLE		Yes
				Auto CH Memory		Yes
				Add/Delete		Yes
			System Set Up			Yes
				Clock Set		Yes (Calendar 12H)
				Language		Yes
				No Noise Back Ground		Yes
				Auto Clock		Yes
				Standard Time		Yes
				Daylight Saving Time		Yes
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry				No
		Stereo, Audio Output, SAP				Yes
		Play/Stop/FF/Rew/Rec/OTR/Pause/Eject/Tape In/Repeat (Symbol Mark)				Yes
				CH/AV(LINE)		Yes
				Clock		Yes
				Repeat		Yes
				Tape Counter		Yes
				Index		Yes
				Tape Speed		Yes
				ATR / Manual Tracking		Yes
				ZERO Return		Yes
				Hi-Fi		Yes
G-11	**OSD Language**		DVD OSD			English / French / Spanish
			VCR OSD			English / French / Spanish
G-12	**Clock,Timer and Timer Back-up**	Calendar				1990/1/1 ~ 2081/12/31
		Timer Events				8 Program/ 1 Month
		One Touch Recording Max Time				6 Hours
		OTPB Valid Time				No
		Timer Back-up (at Power Off Mode)				5sec
G-13	**Display**	DISPLAY				Yes
				DISPLAY type		LED Module (Amber, "Rec" &Timer symbol = Red)
				Clock/Counter,CH,Timer Rec,OTR, Play Rec,FF(Cue),Rew(Rev),Stop,ATR,Eject		No
				VCR		Yes
				DVD		Yes
				CD		Yes
				Clock		Yes (12h)
					AM	No
					PM	Yes
				Counter	VCR	Yes (hour:min)
					DVD	Yes (hour:min)
					CD	Yes (min:sec)
				Eject		Yes
				Counter Remain		No
				Play		Yes
				Stop		No
				Rec		Yes
				FF / Cue		No
				REW / Review		No
				Pause / Still		Yes
				OTR (ITR)		No
				T-Rec		Yes
				Chapter		No
				TITLE		No
				TRACK		Yes
				Repeat		No
				Hi-Fi		No
				SP		No
				LP		No
				SLP		No
				CH		Yes
				RF Output CH		Yes
				Tape In		Yes
				Remocon Custom Code		No
				Progressive Scan Out		Yes

GENERAL SPECIFICATIONS
(SD-V392SUA)

G-14	**Remote Control**	Unit		RC-HL
		Glow in Dark Remocon		Yes
		Format		NEC (TOSHIBA)
		Custom Code		45-BA
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		46 Key
		Keys	Power	Yes
			DISPLAY/CALL	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			Input Select	No
			Input Select / PROGRESSIVE	Yes
			UP/ SET+ / TRACKING+	Yes
			DOWN/ SET- / TRACKING-	Yes
			LEFT/CH-	Yes
			RIGHT/CH+	Yes
			VCR/DVD	Yes
			TV/VCR	Yes
			DVD MENU	Yes
			TITLE (TOP MENU)	Yes
			SETUP MENU/VCR MENU	Yes
			SELECT/ENTER	Yes
			CLEAR/CANCEL	Yes
			RETURN	Yes
			PLAY	Yes
			STOP	Yes
			PAUSE/STILL/STEP	Yes
			FF(Cue)/SEARCH+	Yes
			REW(Review)/SEARCH-	Yes
			REC/OTR	Yes
			SKIP+ / INDEX+	Yes
			SKIP- / INDEX-	Yes
			AUDIO / AUDIO SELECT	Yes
			ANGLE/COUNTER RESET	Yes
			SUBTITLE/ATR	Yes
			PLAY MODE/SPEED	Yes
			T-REC	Yes
			CLOCK / COUNTER	Yes
			JUMP/ZERO RETURN	Yes
			ZOOM/CM SKIP	Yes
			REPEAT A-B	Yes
			SLOW (Forward)	Yes
			MARKER	Yes
			OPEN/CLOSE	Yes
			EJECT	Yes

GENERAL SPECIFICATIONS
(SD-V392SUA)

G-15	**Features (DVD)**	Auto Power Off		No
		Parental Lock		Yes
		Video CD Playback		Yes
		MP3 Playback		Yes
		WMA Playback		Yes
		JPEG Playback		Yes
		Progressive Scan Out		Yes
		Digital Out	Dolby Digital	Yes
			MPEG	Yes
			PCM	Yes
			DTS	Yes
		Down Mix Out	(Dolby Digital)	Yes
			(DTS)	No
		Spatializer (N-2-2)		Yes
		Screen Saver		Yes
		Tray Lock		Yes
		Auto Stop		No
		Audio DAC		192kHz / 24bit
	Features (VCR)	Auto Head Cleaning		Yes
		Auto Tracking		Yes
		HQ (VHS Standard High Quality)		Yes
		Auto Power On, Auto Play, Auto Rewind, Auto Eject		Yes
		Auto Power Off		No
		Forward/Reverse Picture Search		Yes
		VIDEO PLUS+ (SHOWVIEW, G-CODE)		No
		One Touch Playback		No
		Auto CH Memory		Yes
		AREA CODE		No
		Auto Clock Set		Yes
		Index Search		Yes
		SQPB		Yes
		CATV		Yes
		Energy Star		No
		MTS (SAP)		Yes
		CM Skip (30sec x 6 Times)		Yes
		Copy (Disc to Tape)		Yes (by Conditioning)
G-16	**Accessories**	Owner's Manual	Language	English
			w/Guarantee Card	Yes
		Remote Control Unit		Yes
		Guarantee Card		No
		Registration Card		Yes
		Warning Sheet		No
		Service Station List		No
		Important Tag		No
		AC Plug Adapter		No
		Quick Set-up Sheet		Yes (Spanish)
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
		AC Cord		No
		AV Cord (1.2m)		Yes
		75 Ohm Coaxial Cable (0.9m)		Yes
		S-Video Cable		No
		21pin cable		No
		800 No Sticker		No
		Toll Free Insert Sheet		No
		Safety Tip		No
		Sheet Information (Return)		Yes
		Netflix Card		Yes

GENERAL SPECIFICATIONS
(SD-V392SUA)

G-17	**Interface**	Switch	Front	Power	Yes
				Play	Yes
				Eject (VCR)	Yes
				Stop	Yes
				Rec/OTR	Yes
				Open/Close (DVD)	Yes
				CH +	Yes
				CH -	Yes
				FF/ Search(>>)	Yes
				Rew/Search(<<)	Yes
				Still/Pause	No
				Shuttle (Search/REV/FWD)	No
				DVD/VCR	Yes
				Main Power SW	No
			Rear	Attenuator	No
				S-Video/Component Video Selector	Yes
				RF Out (Slide SW)	No
				Main Power SW	No
		Volume		Phones Volume	No
				Mic Volume	No
				Echo Volume	No
				Rec/OTR	No
		Terminals	Front	Video In	RCA x 1 (Black/Silver)
				Audio In	RCA x 2 (Stereo, Black/Silver)
			Rear	Video Output	RCA x1 (Yellow) S-Video x 1 (DVD Signal Only) Component x1 (RCA 3pin, DVD Signal Only)
				Audio Output	RCA x 4(Stereo, Red/White) Coaxial x 1 (Digital Audio, DVD Signal Only)
				Optical Out (Option)	Yes (Digital Audio, DVD Signal Only)
				Video Input (Option)	RCA x 1 (Yellow)
				Audio Input (Option)	RCA x 2 (Stereo, Red/White)
				RF Input / Output	Yes
				Euro Scart	No
				AC Inlet	No
		Indicator	LED	Power	No
				Rec	No
				T-Rec	No
				TV/VCR	No
				DVD	Yes (GREEN)
				VCR	Yes (GREEN)
				Surround	No
				Level Meter	No
G-18	**Set Size**			Approx. W x D x H (mm)	430 x 224.5 x 99
G-19	**Weight**			Net (Approx.)	3.5 kg(7.7lbs)
				Gross (Approx.)	4.5 kg(9.9lbs)
G-20	**Carton**		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H(mm)	---
				Description of Origin	---
			Gift Box		Yes
				Material	Double / White
				W/Color Photo Label	No
				Dimensions W x D x H(mm)	497 x 340 x 180
				Design	As Per BUYER 's
				Description of Origin	Yes
			Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	80 cm
			Container Stuffing		2,011 Sets/40' container
G-21	**Material**		Cabinet	Front	PS 94V2 or More / DECABROM
			PCB	Non-Halogen Demand	No
				Eyelet Demand	No
G-22	**Environment**		Pb Free	Lead-free Solder	No
				Other	No
			Cd Free		No

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-1	**Outline of the product**				DVD VIDEO PLAYER & VHS Player / Recorder
G-2	**DVD System**	Color System			NTSC
		Disc			DVD, CD-DA, CD-R/RW, VIDEO CD, SVCD, DVD-R/RW (VIDEO FORMAT ONLY)
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Disc Loading
			Motor		3 Motors
		Pick up			1-Lens 2-Beams System
		Playback time (Max)	DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			VIDEO CD		74min
		Search speed			Fwd 4 steps
				Actual	2-120 times (DVD) 4-40 times (CD)
					Rev 4 steps
				Actual	2-120 times (DVD) 4-40 times (CD)
		Slow speed			Fwd 1/7-1/2 times
				Actual	--
					Rev --
				Actual	--
G-3	**VCR System**	System			VHS Player / Recorder
		Video System			NTSC
		Hi-Fi STEREO			Yes
		NTSC PB(PAL60Hz)			No
		Deck	DECK		OVD-7
			Loading System		Front
			Motor		3
		Heads	Video Head		4Head
			FM Audio Head		2Head
			Audio / Control		Mono/Yes
			Erase (Full Track Erase)		Yes
			Erase (Normal Audio Track Erase)		No
		Tape Speed	Rec	PAL	-
				NTSC	SP/SLP(EP)
			Play	PAL	-
				NTSC	SP/SLP(EP)
		Fast Forward / Rewind Time (Approx.) at 25oC			FF:1'48"/REW:1'48"
				with Cassette	T-120
		Forward/Reverse Picture Search	NTSC or PAL-M		SP/LP/SLP(EP) = 3x,5x / 7x,9x / 9x,15x
			PAL or SECAM		-
		Frame Advance			Yes
		Slow Speed			1/10
G-4	**Tuning System**	Broadcasting System			US System M
		Tuner and Receive CH	System		1Tuner
			Destination		US (w/CATV)
			Tuning System		F-Synth
			Input Impedance		VHF/UHF 75 OHM
			CH Coverage		2-69,4A,A-5~ A-1,A~I, J~ W, W+1-W+84
		Intermediate Frequency	Picture (FP)		45.75 MHz
			Sound (FS)		41.25 MHz
			FP-FS		4.50 MHz
		Preset CH			-
		RF Converter Output			Yes
			Channel		3 or 4 ch
			Level / Impedance		66 dBu / 75 Ohm
			Sound Selector		No
		Stereo / Dual TV Sound			US-ST
		Tuner Sound Muting			Yes
G-5	**Power**	Power Source	AC		120V 60Hz
			DC		-
		Power Consumption			18 W at 120V 60Hz
			Stand by		2 W at 120V 60Hz
			Per Year		-- W
		Protector	Power Fuse		Yes
			Safety Circuit		Yes
			IC Protector(Micro Fuse)		No

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-6	**Regulation**		Safety	UL / CSA
			Radiation	FCC / IC
			Laser	DHHS
G-7	**Temperature**		Operation	5oC - 40oC
			Storage	-20oC - 60oC
G-8	**Operating Humidity**			Less than 80% RH
G-9	**Signal**	Video Signal	Output Level	1 V p-p/75 ohm (DVD,VCR)
			S/N Ratio (Weighted)	65 dB(DVD) 50 dB(VCR)
			Horizontal Resolution	500 Lines (DVD) 230 Lines(VCR Mode)
		RGB Signal	Output Level	-
		Audio Signal	Input Level Microphone	-
			Input Level Line	-8 dBm/ 50k ohm (VCR, 0dBm=0.775Vrms)
			Output Level Line	-8 dBm/ 1k ohm (VCR, 0dBm=0.775Vrms) -12dBm/ 1k ohm (DVD, -20dBFs 0dBFs=2.0Vrms)
			Digital Output Level	0.5 V p-p / 75 ohm(DVD)
			S/N Ratio at (Weighted)	90dB(DVD), 42dB(VCR at SP)
			Harmonic Distortion (1KHz) Typical	0.02% (1KHz) (DVD) , 1.5% (1KHz) (VCR)
			Frequency Response : DVD Mode at DVD	4 Hz - 22 KHz
			DVD Mode at VIDEO CD	4 Hz - 20 KHz
			DVD Mode at CD	4 Hz - 20 KHz
			VCR Mode at SP	100Hz - 10 KHz
			VCR Mode at LP	-
			VCR Mode at SLP	100Hz - 4 KHz
		Hi-Fi Audio Signal	Dynamic Range : More than	90dB
			Frequency Response	20Hz ~20kHz
			Wow And Flutter : Less than	0.01 %Wrms
			Channel Separation : More than	60 dB
			Harmonic Distortion : Less than	0.01

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-10	**On Screen Display (DVD)**	Menu			Yes	
			Menu Type		Character	
			Language		Yes	
				Menu	Yes	
				Subtitle	Yes	
				Audio	Yes	
			Picture		Yes	
				TV Screen Size	Yes	
				OSD Display On/Off	Yes	
				JPEG Interval	Yes	
				Select Files	Yes	
				E.B.L. (Enhanced Black Level)	Yes	
			Sound		Yes	
				DRC (Dynamic Range Control)		No
				Dialogue On:DRC(TV)/ Off:DRC(Std)	Yes	
				dts Decode		No
				Output (5.1ch/2ch)		No
				Surround On/Off		No
				Center On/Off		No
				Sub Woofer On/Off		No
			Parental		Yes	
				Password Lock/Unlock	Yes	
				Rating Level	Yes	
			Other		Yes	
				OSD Language (Set up Language)	Yes	
				Output (RGB / Composite)		No
			Open		Yes	
			Close		Yes	
			No disc		Yes	
			Reading		Yes	
			Play		Yes	
			Still/Pause		Yes	
			Stop		Yes	
			Prohibit Mark		Yes	
			Step		Yes	
			Skip (>>|)		Yes	
			Skip (|<<)		Yes	
			Random		Yes (CD, VIDEO CD,SVCD MP3, WMA, JPEG)	
			Repeat		Yes	
			Slow+ ##		Yes	
			Slow- ##			No
			Search+ ##		Yes	
			Search- ##		Yes	
			Jump		Yes	
			Resume		Yes	
			Title No.		Yes	
			Chapter No.		Yes	
			Track No.		Yes	
			Time		Yes	
			Subtitle No.		Yes	
			Angle No.		Yes	
			Vocal On/Off		Yes	
			Audio No.		Yes	
			Audio Stereo L/R		Yes (VIDEO CD, SVCD)	
			Zoom		Yes	
			Marker No.		Yes	
			Spatializer (N-2-2)		Yes	
			Program Play Back		Yes (CD, VIDEO CD, SVCD, MP3, WMA, JPEG)	
			MP3/WMA/JPEG	Folder Name	Yes	
				File Name	Yes	
				File No	Yes	
				Time	Yes (MP3, WMA Only)	
				Track No	Yes	
			Progressive Scan Out ON/OFF		Yes	

GENERAL SPECIFICATIONS
(SD-V392SCA)

	On Screen Display(VCR)	Menu				Yes
			Menu Type			Character
			Timer Rec Set			Yes
			Auto Repeat On/Off			Yes
			SAP On/Off			Yes
			CH Set-Up			Yes
				TV/CABLE		Yes
				Auto CH Memory		Yes
				Add/Delete		Yes
			System Set Up			Yes
				Clock Set		Yes (Calendar 12H)
				Language		Yes
				No Noise Back Ground		Yes
				Auto Clock		Yes
				Standard Time		Yes
				Daylight Saving Time		Yes
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry				No
		Stereo, Audio Output, SAP				Yes
		Play/Stop/FF/Rew/Rec/OTR/Pause/Eject/Tape In/Repeat (Symbol Mark)				Yes
				CH/AV(LINE)		Yes
				Clock		Yes
				Repeat		Yes
				Tape Counter		Yes
				Index		Yes
				Tape Speed		Yes
				ATR / Manual Tracking		Yes
				ZERO Return		Yes
				Hi-Fi		Yes
G-11	**OSD Language**		DVD OSD			English / French / Spanish
			VCR OSD			English / French / Spanish
G-12	**Clock,Timer and Timer Back-up**	Calendar				1990/1/1 ~ 2081/12/31
		Timer Events				8 Program/ 1 Month
		One Touch Recording Max Time				6 Hours
		OTPB Valid Time				No
		Timer Back-up (at Power Off Mode)				5sec
G-13	**Display**	DISPLAY				Yes
				DISPLAY type		LED Module (Amber, "Rec" &Timer symbol = Red)
				Clock/Counter,CH,Timer Rec,OTR, Play Rec,FF(Cue),Rew(Rev),Stop,ATR,Eject		No
				VCR		Yes
				DVD		Yes
				CD		Yes
				Clock		Yes (12h)
					AM	No
					PM	Yes
				Counter	VCR	Yes (hour:min)
					DVD	Yes (hour:min)
					CD	Yes (min:sec)
				Eject		Yes
				Counter Remain		No
				Play		Yes
				Stop		No
				Rec		Yes
				FF / Cue		No
				REW / Review		No
				Pause / Still		Yes
				OTR (ITR)		No
				T-Rec		Yes
				Chapter		No
				TITLE		No
				TRACK		Yes
				Repeat		No
				Hi-Fi		No
				SP		No
				LP		No
				SLP		No
				CH		Yes
				RF Output CH		Yes
				Tape In		Yes
				Remocon Custom Code		No
				Progressive Scan Out		Yes

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-14	**Remote Control**	Unit		RC-JM
		Glow in Dark Remocon		Yes
		Format		NEC (TOSHIBA)
		Custom Code		45-BA
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		49 Key
		Keys	Power	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			DVD /VCR SELECT	Yes
			Input Select	No
			Input Select / PROGRESSIVE	Yes
			VCR/DVD	Yes
			TV	Yes
			CABLE BOX	Yes
			OPEN/CLOSE	Yes
			PROGRAM	Yes
			DISPLAY/CALL	Yes
			CLOCK / COUNTER	Yes
			TOP MENU	Yes
			RETURN	Yes
			ZOOM/CM SKIP	Yes
			MENU	Yes
			SUB TITLE/ATR	Yes
			AUDIO / AUDIO SELECT	Yes
			ANGLE/COUNTER RESET	Yes
			PLAY	Yes
			STOP	Yes
			FF(Cue)/SEARCH+	Yes
			REW(Review)/SEARCH-	Yes
			SLOW(Forward)	Yes
			PAUSE/STILL	Yes
			SKIP+ / INDEX+	Yes
			SKIP- / INDEX-	Yes
			JUMP/ZERO RETURN	Yes
			MARKER	Yes
			UP/ SET+ / VOL+	Yes
			DOWN/ SET- / VOL-	Yes
			LEFT/CH-	Yes
			RIGHT/CH+	Yes
			ENTER	Yes
			SETUP/VCR MENU	Yes
			PLAY MODE/SPEED	Yes
			REPEAT A-B	Yes
			CLEAR/CANCEL	Yes
			TV/VCR	Yes
			T-REC	Yes
			REC/OTR	Yes

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-15	**Features (DVD)**	Auto Power Off		No
		Parental Lock		Yes
		Video CD Playback		Yes
		MP3 Playback		Yes
		WMA Playback		Yes
		JPEG Playback		Yes
		Progressive Scan Out		Yes
		Digital Out	Dolby Digital	Yes
			MPEG	Yes
			PCM	Yes
			DTS	Yes
		Down Mix Out	(Dolby Digital)	Yes
			(DTS)	No
		Spatializer (N-2-2)		Yes
		Screen Saver		Yes
		Tray Lock		Yes
		Auto Stop		No
		Audio DAC		192kHz / 24bit
	Features (VCR)	Auto Head Cleaning		Yes
		Auto Tracking		Yes
		HQ (VHS Standard High Quality)		Yes
		Auto Power On, Auto Play, Auto Rewind, Auto Eject		Yes
		Auto Power Off		No
		Forward/Reverse Picture Search		Yes
		VIDEO PLUS+ (SHOWVIEW, G-CODE)		No
		One Touch Playback		No
		Auto CH Memory		Yes
		AREA CODE		No
		Auto Clock Set		Yes
		Index Search		Yes
		SQPB		Yes
		CATV		Yes
		Energy Star		No
		MTS (SAP)		Yes
		CM Skip (30sec x 6 Times)		Yes
		Copy (Disc to Tape)		Yes (by Conditioning)
G-16	**Accessories**	Owner's Manual	Language	English/ French
			w/Guarantee Card	Yes
		Remote Control Unit		Yes
		Guarantee Card		No
		Registration Card		No
		Warning Sheet		No
		Service Station List		No
		Important Tag		No
		AC Plug Adapter		No
		Quick Set-up Sheet		Yes (Spanish)
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
		AC Cord		No
		AV Cord (1.2m)		Yes
		75 Ohm Coaxial Cable (0.9m)		Yes
		S-Video Cable		No
		21pin cable		No
		800 No Sticker		No
		Toll Free Insert Sheet		No
		Safety Tip		No
		Sheet Information (Return)		Yes
		Netflix Card		No

GENERAL SPECIFICATIONS
(SD-V392SCA)

G-17	**Interface**	Switch	Front	Power	Yes
				Play	Yes
				Eject (VCR)	Yes
				Stop	Yes
				Rec/OTR	Yes
				Open/Close (DVD)	Yes
				CH +	Yes
				CH -	Yes
				FF/ Search(>>)	Yes
				Rew/Search(<<)	Yes
				Still/Pause	No
				Shuttle (Search/REV/FWD)	No
				DVD/VCR	Yes
				Main Power SW	No
			Rear	Attenuator	No
				S-Video/Component Video Selector	Yes
				RF Out (Slide SW)	No
				Main Power SW	No
		Volume		Phones Volume	No
				Mic Volume	No
				Echo Volume	No
				Rec/OTR	No
		Terminals	Front	Video In	RCA x 1 (Black/Silver)
				Audio In	RCA x 2 (Stereo, Black/Silver)
			Rear	Video Output	RCA x1 (Yellow) S-Video x 1 (DVD Signal Only) Component x1 (RCA 3pin, DVD Signal Only)
				Audio Output	RCA x 4(Stereo, Red/White) Coaxial x 1 (Digital Audio, DVD Signal Only)
				Optical Out (Option)	Yes (Digital Audio, DVD Signal Only)
				Video Input (Option)	RCA x 1 (Yellow)
				Audio Input (Option)	RCA x 2 (Stereo, Red/White)
				RF Input / Output	Yes
				Euro Scart	No
				AC Inlet	No
		Indicator	LED	Power	No
				Rec	No
				T-Rec	No
				TV/VCR	No
				DVD	Yes (GREEN)
				VCR	Yes (GREEN)
				Surround	No
				Level Meter	No
G-18	**Set Size**			Approx. W x D x H (mm)	430 x 224.5 x 99
G-19	**Weight**			Net (Approx.)	3.5 kg(7.7lbs)
				Gross (Approx.)	4.5 kg(9.9lbs)
G-20	**Carton**		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H(mm)	---
				Description of Origin	---
			Gift Box		Yes
				Material	Double / White
				W/Color Photo Label	No
				Dimensions W x D x H(mm)	497 x 340 x 180
				Design	As Per BUYER 's
				Description of Origin	Yes
			Drop Test		Natural Dropping At 1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	80 cm
			Container Stuffing		2,011 Sets/40' container
G-21	**Material**		Cabinet	Front	PS 94V2 or More / DECABROM
			PCB	Non-Halogen Demand	No
				Eyelet Demand	No
G-22	**Environment**		Pb Free	Lead-free Solder	No
				Other	No
			Cd Free		No

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: TOP CABINET, FRONT CABINET, OPERATION 1/2 PCB AND FRONT JACK PCB (Refer to Fig. 1-1)

1. Remove the 5 screws ①.
2. Remove the Top Cabinet in the direction of arrow (A).
3. Disconnect the following connectors: (CP651 and CP652).
4. Unlock the 8 supports ②.
5. Remove the Front Cabinet in the direction of arrow (B).
6. Remove the 11 screws ③.
7. Remove the Operation 1/2 PCB and Front Jack PCB in the direction of arrow (C).
8. Remove the 3 Pin Shield.

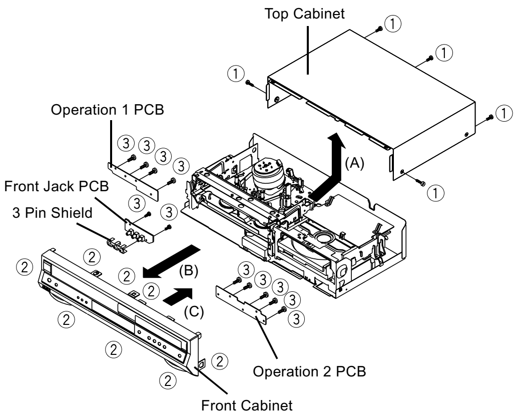

Top Cabinet
①
Operation 1 PCB
③
(A)
Front Jack PCB
3 Pin Shield
②
(B)
(C)
Operation 2 PCB
Front Cabinet

Fig. 1-1

1-2: FLAP (Refer to Fig. 1-2)

1. Open Flap to 90˚ and flex in direction of arrow (A), at the same time slide in direction of arrow (B).
2. Then lift in direction of arrow (C).

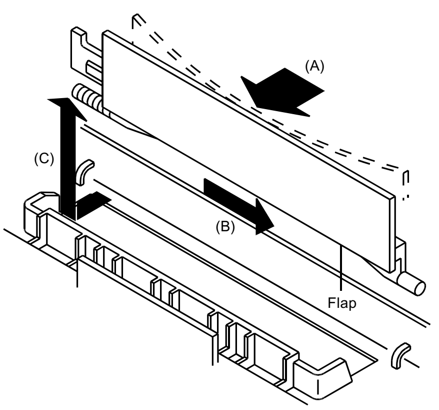


Fig. 1-2

1-3: DVD DECK/DVD PCB (Refer to Fig. 1-3)

1. Make the short circuit on the position as shown **Fig. 1-3** using a soldering. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Unlock the support ① and remove the Deck Top Holder in the direction of arrow (A).
3. Remove the 2 screws ②.
4. Remove the 2 screws ③.
5. Disconnect the following connectors: (CP501, CP8001).
6. Remove the DVD Deck in the direction of arrow (B).
7. Remove the 2 screws ④.
8. Disconnect the following connectors: (CP2601, CP2602, CP2603).
9. Remove the DVD PCB in the direction of arrow (C).
10. Remove the 3 screws ⑤.
11. Remove the Front Angle in the direction of arrow (D).

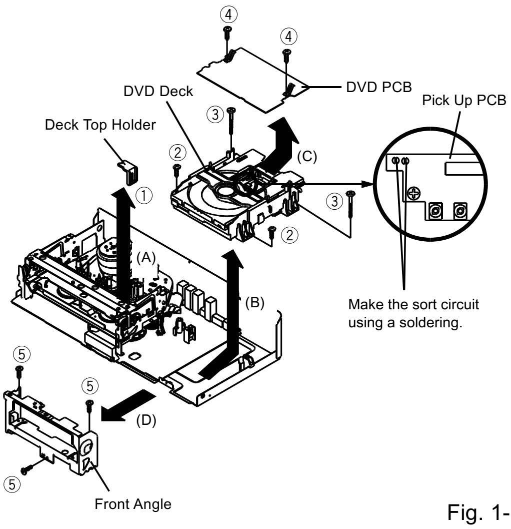

④
DVD Deck
DVD PCB
Pick Up PCB
Deck Top Holder
③
②
(C)
①
(A)
(B)
Make the sort circuit using a soldering.
⑤
(D)
Front Angle

Fig. 1-3

NOTE

When the installation of the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and VCR PCB connector.

DISASSEMBLY INSTRUCTIONS

1-4: VCR DECK (Refer to Fig. 1-4)

NOTE

Do not remove the cable at the FE Head section. The FE Head may be damaged if you remove the cable by force.

1. Remove the screw ①.
2. Remove the FE Head.
3. Move the Cassette Holder Ass'y to the back side.
4. Remove the 2 screws ②.
5. Remove the 2 screws ③.
6. Disconnect the following connectors:
   (CP101, CP102, CP3001).
7. Remove the VCR Deck in the direction of arrow.

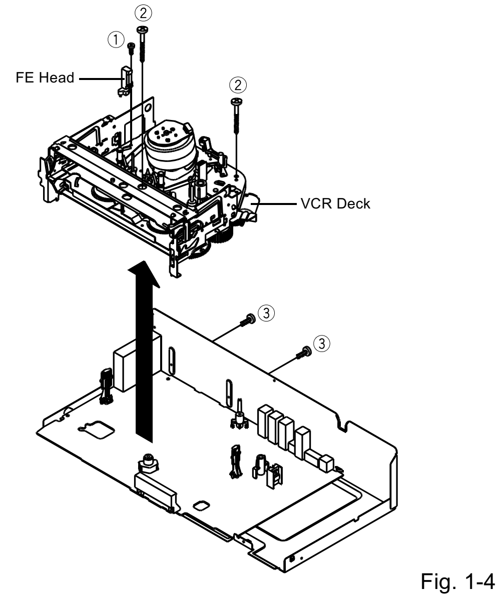


Fig. 1-4

1-5: VCR PCB (Refer to Fig. 1-5)

1. Remove the screw ①.
2. Remove the 6 screws ②.
3. Remove the 2 screws ③.
4. Remove the VCR PCB in the direction of arrow.

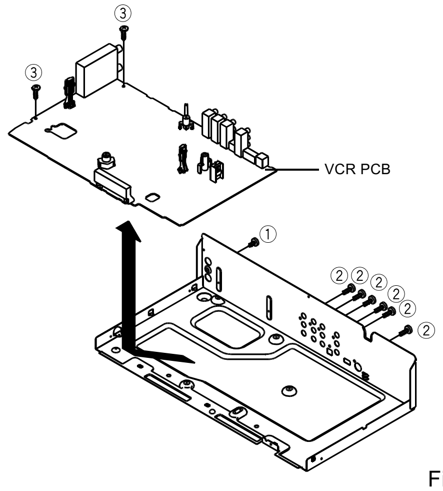


Fig. 1-5

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF VCR DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Extend the 2 supports ①.
2. Slide the 2 supports ② and remove the Top Bracket.

NOTE

1. After the installation of the Top Bracket, bend the support ① so that the Top Bracket is fixed.

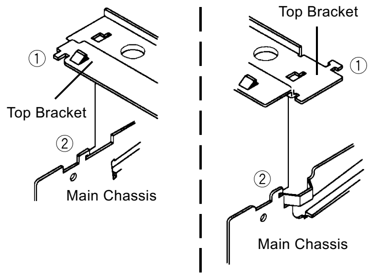

①
Top Bracket
②
Main Chassis
Top Bracket
①
②
Main Chassis

Fig. 2-1

2-2: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the front side.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

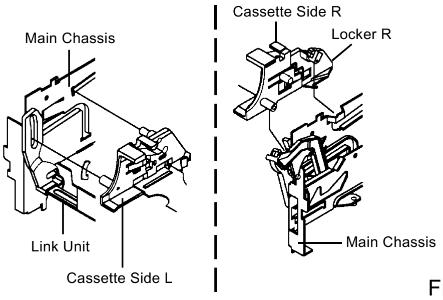

Main Chassis
Link Unit
Cassette Side L
Cassette Side R
Locker R
Main Chassis

Fig. 2-2

2-3: CASSETTE SIDE L/R (Refer to Fig. 2-3-A)

1. Remove the Locker Spring.
2. Unlock the 4 supports ① and then remove the Cassette Side L/R.
3. Unlock the support ② and then remove the Locker R.

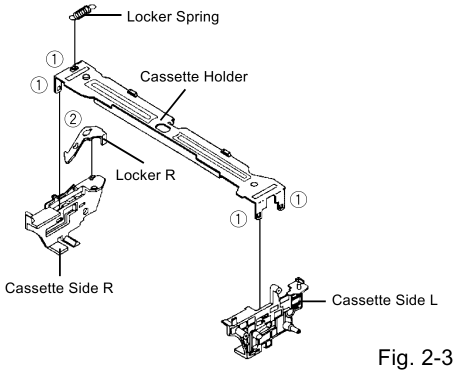

Locker Spring
①
①
Cassette Holder
②
Locker R
①
①
Cassette Side R
Cassette Side L

Fig. 2-3-A

NOTE

1. In case of the Locker R installation, check if the one position of Fig. 2-3-B are correctly locked.
2. When you install the Cassette Side R, be sure to move the Locker R after installing.

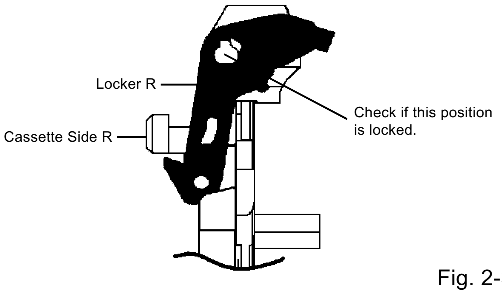

Locker R
Cassette Side R
Check if this position
is locked.

Fig. 2-3-B

2-4: LINK UNIT (Refer to Fig. 2-4)

1. Set the Link Unit to the Eject position.
2. Unlock the support ①.
3. Remove the (A) side of the Link Unit first, then remove the (B) side.

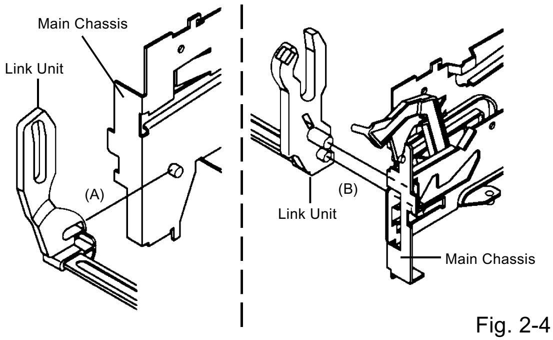

Main Chassis
Link Unit
(A)
(B)
Link Unit
Main Chassis

Fig. 2-4

2-5: LINK LEVER/FLAP LEVER (Refer to Fig. 2-5)

1. Extend the support ①.
2. Remove the Link Lever.
3. Remove the Flap Lever.

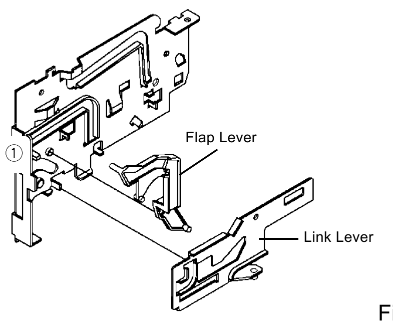
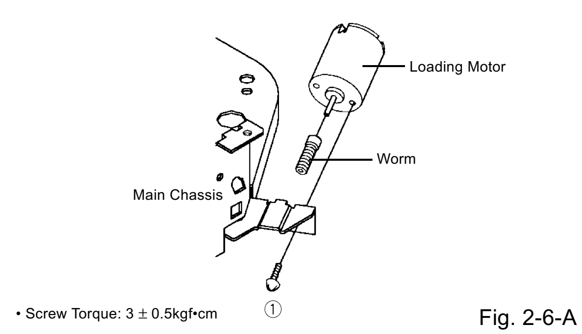

①
Flap Lever
Link Lever

Fig. 2-5

DISASSEMBLY INSTRUCTIONS

2-6: LOADING MOTOR/WORM (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Loading Motor.
3. Remove the Worm.


Loading Motor
Worm
Main Chassis
①

• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-6-A

NOTE

1. In case of the Worm installation, check if the value of the Fig. 2-6-B is correct.
2. In case of the Loading Motor installation, hook the wire on the Cassette Opener as shown Fig. 2-6-C.
3. When installing the wires between Capstan DD Unit and Loading Motor, connect them correctly as shown Fig. 2-6-D.

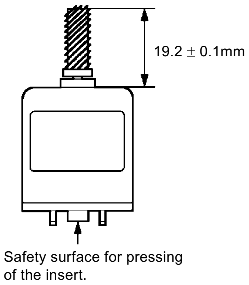

19.2 ± 0.1mm
Safety surface for pressing
of the insert.

Fig. 2-6-B

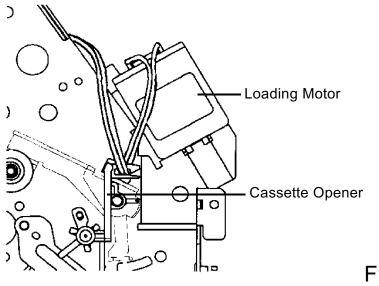

Loading Motor
Cassette Opener

Fig. 2-6-C

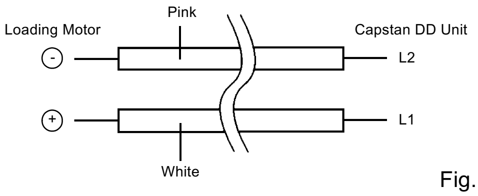

Loading Motor
Pink
Capstan DD Unit
-
L2
+
L1
White

Fig. 2-6-D

2-7: TENSION ASS’Y (Refer to Fig. 2-7-B)

1. Turn the Pinch Roller Cam clockwise so that the Tension Holder hook is set to the position of Fig. 2-7-A to move the Tension Arm Ass’y.
2. Remove the Tension Spring.
3. Unlock the 2 supports ① and remove the Tension Band.
4. Unlock the support ② and remove the Tension Arm Ass’y.
5. Unlock the support ③ and remove the Tension Connect.
6. Float the hook ④ and turn it clockwise then remove the Tension Holder.

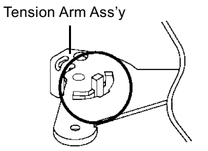

Tension Arm Ass’y

Fig. 2-7-A

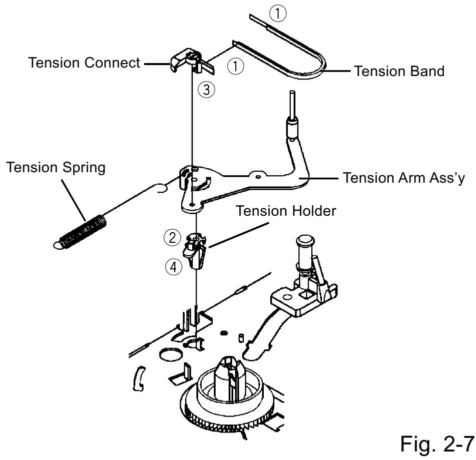

①
Tension Connect
①
③
Tension Band
Tension Spring
Tension Arm Ass’y
Tension Holder
②
④

Fig. 2-7-B

NOTE

1. In case of the Tension Band installation, note the direction of the installation. **(Refer to Fig. 2-7-C)**
2. In case of the Tension Band installation, install correctly as Fig. 2-7-D.
3. In case of the Tension Connect installation, install as the circled section of Fig. 2-7-E.

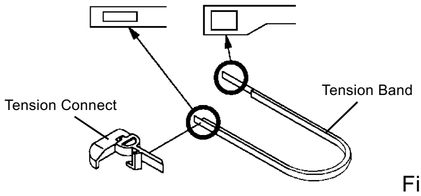

Tension Connect
Tension Band

Fig. 2-7-C

DISASSEMBLY INSTRUCTIONS

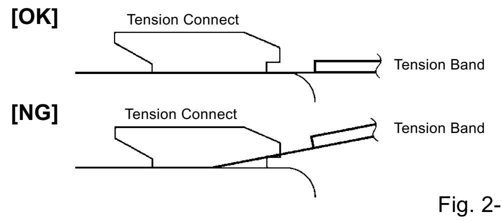

[OK]
Tension Connect
Tension Band
[NG]
Tension Connect
Tension Band

Fig. 2-7-D

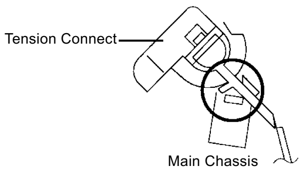

Tension Connect
Main Chassis

Fig. 2-7-E

2-8: T BRAKE ARM/T BRAKE BAND (Refer to Fig. 2-8-A)

1. Remove the T Brake Spring.
2. Turn the T Brake Arm clockwise and bend the hook section to remove it.
3. Unlock the 2 supports ① and remove the T Brake Band.

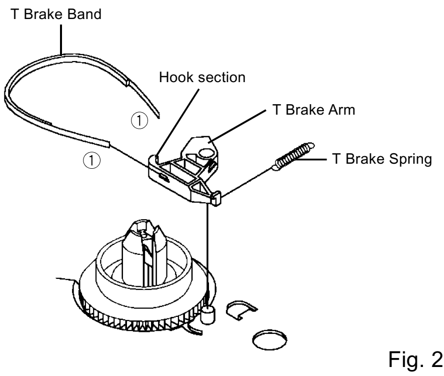

T Brake Band
Hook section
①
T Brake Arm
①
T Brake Spring

Fig. 2-8-A

NOTE

1. In case of the T Brake Band installation, install correctly as Fig. 2-8-B.

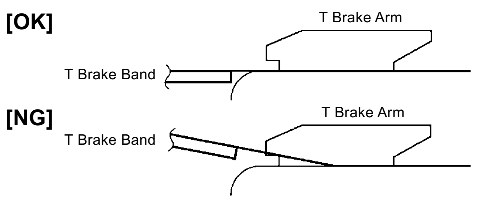

[OK]
T Brake Arm
T Brake Band
[NG]
T Brake Arm
T Brake Band

Fig. 2-8-B

2-9: S REEL/T REEL/IDLER ARM ASS’Y/IDLER GEAR (Refer to Fig. 2-9-A)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers ①.
3. Remove the Idler Arm Ass’y and Idler Gear.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section “A” of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-9-A)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and grease it. (If you do not grease, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

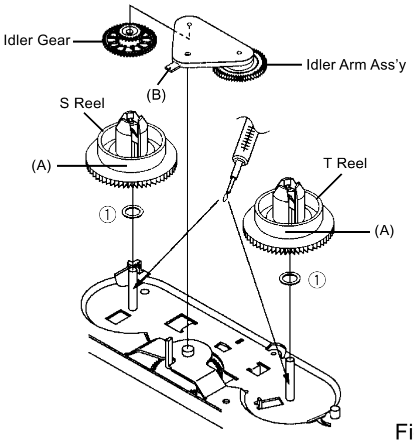

Idler Gear
Idler Arm Ass’y
(B)
S Reel
(A)
T Reel
①
(A)
①

Fig. 2-9-A

NOTE

1. In case of the S Reel and T Reel installation, check if the correct parts are installed. **(Refer to Fig. 2-9-B)**
2. In case of the Idler Arm Ass’y installation, install correctly as Fig. 2-9-C. And also set it so that the section “B” of Fig. 2-9-A is placed under the Main Chassis tab.

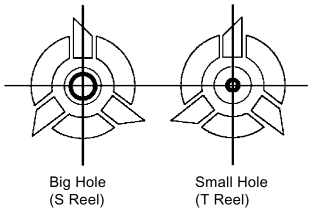

Big Hole
(S Reel)
Small Hole
(T Reel)

Fig. 2-9-B

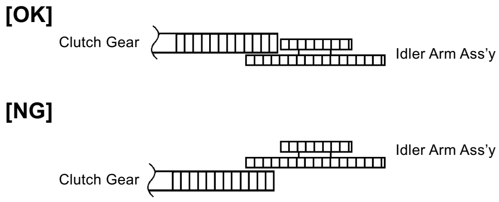

[OK]
Clutch Gear
Idler Arm Ass’y
[NG]
Idler Arm Ass’y
Clutch Gear

Fig. 2-9-C

DISASSEMBLY INSTRUCTIONS

2-10: CASSETTE OPENER/PINCH ROLLER BLOCK/P5 ARM ASS’Y (Refer to Fig. 2-10-A)

1. Unlock the support ① and remove the Cassette Opener.
2. Remove the Pinch Roller Block and P5 Arm Ass’y.

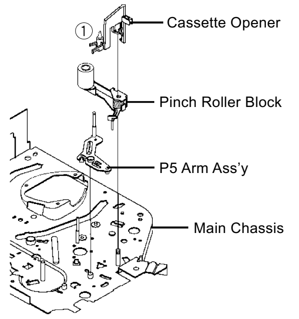

①
Cassette Opener
Pinch Roller Block
P5 Arm Ass’y
Main Chassis

Fig. 2-10-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. In case of the Pinch Roller Block and the Pinch Roller Cam installation, install correctly as Fig. 2-10-B.

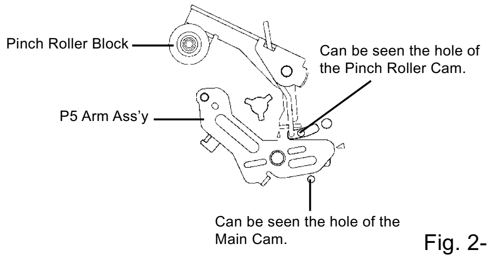

Pinch Roller Block
Can be seen the hole of the Pinch Roller Cam.
P5 Arm Ass’y
Can be seen the hole of the Main Cam.

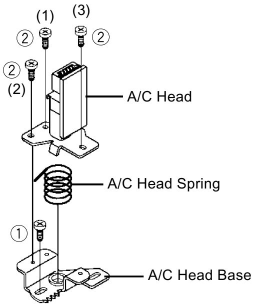
Fig. 2-10-B

2-11: A/C HEAD (Refer to Fig. 2-11-A)

1. Remove the screw ①.
2. Remove the A/C Head Base.
3. Remove the 3 screws ②.
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-11-B.
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).


(1)
(3)
②
②
②
(2)
A/C Head
A/C Head Spring
①
A/C Head Base

• Screw Torque: 5 ± 0.5kgf•cm (Screw ①)

Fig. 2-11-A

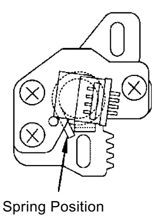
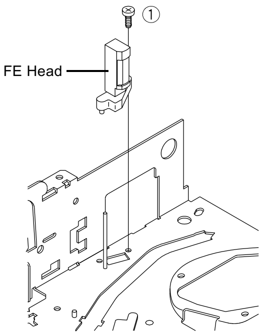

Spring Position

Fig. 2-11-B

2-12: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-12)

1. Remove the screw ①.
2. Remove the FE Head.



• Screw Torque: 5 ± 0.5kgf•cm
• The FE Head is not installed on the Video Cassette Player.

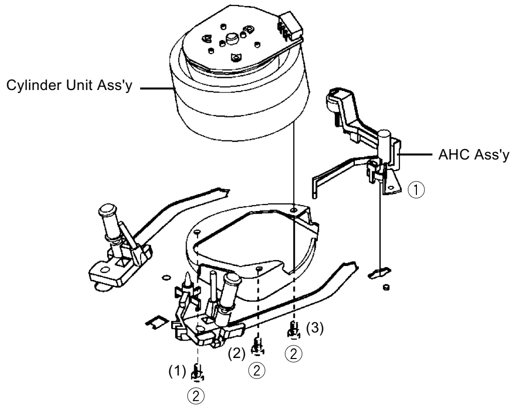
Fig. 2-12

2-13: AHC ASS'Y/CYLINDER UNIT ASS'Y (Refer to Fig. 2-13)

1. Unlock the support ① and remove the AHC Ass'y.
2. Disconnect the following connector: (CD2001)
3. Remove the 3 screws ②.
4. Remove the Cylinder Unit Ass'y.

NOTE

1. When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.


Cylinder Unit Ass'y
AHC Ass'y
①
(3)
(2)
②
②
(1)
②

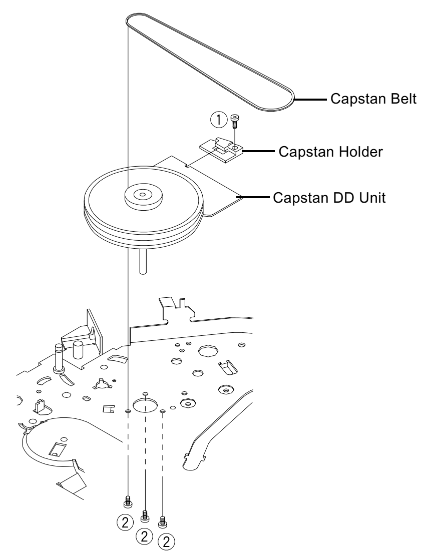
• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-13

DISASSEMBLY INSTRUCTIONS

2-14: CAPSTAN DD UNIT (Refer to Fig. 2-14)

1. Remove the Capstan Belt.
2. Remove the screw ①.
3. Remove the Capstan Holder.
4. Remove the 3 screws ②.
5. Remove the Capstan DD Unit.



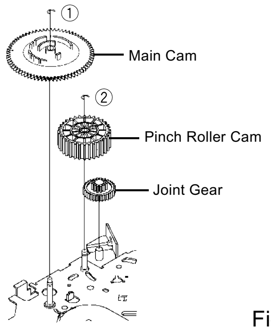
Capstan Belt
①
Capstan Holder
Capstan DD Unit
②
②
②

• Screw Torque: 4 ± 0.5kgf•cm

Fig. 2-14

2-15: MAIN CAM/PINCH ROLLER CAM/JOINT GEAR (Refer to Fig. 2-15-A)

1. Remove the E-Ring ①, then remove the Main Cam.
2. Remove the E-Ring ②, then remove the Pinch Roller Cam and Joint Gear.

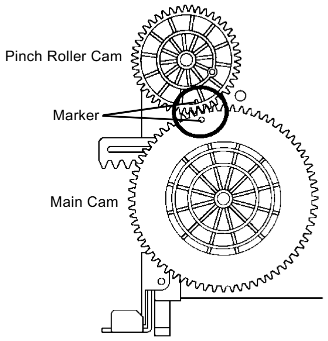


①
Main Cam
②
Pinch Roller Cam
Joint Gear

Fig. 2-15-A

NOTE

1. In case of the Pinch Roller Cam and Main Cam installation, install them as the circled section of Fig. 2-15-B so that the each markers are met. **(Refer to Fig. 2-15-B)** And also can be seen the Main Chassis hole through the Main Cam maker hole.

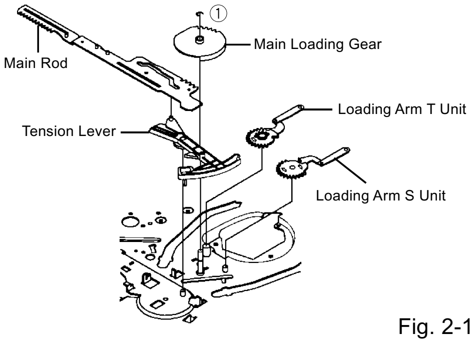


Pinch Roller Cam
Marker
Main Cam

Fig. 2-15-B

2-16: LOADING GEAR S/T UNIT (Refer to Fig. 2-16-A)

1. Remove the E-Ring ① and remove the Main Loading Gear.
2. Remove the Main Rod, Tension Lever, Loading Arm S Unit and Loading Arm T Unit.

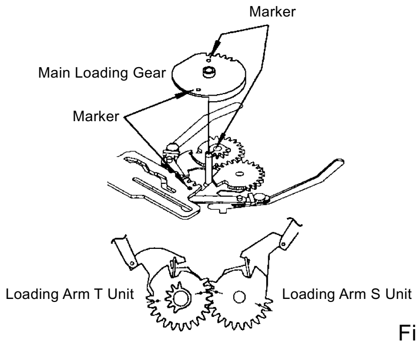


①
Main Loading Gear
Main Rod
Loading Arm T Unit
Tension Lever
Loading Arm S Unit

Fig. 2-16-A

NOTE

1. When you install the Loading Arm S Unit, Loading Arm T Unit and Main Loading Gear, align each marker. **(Refer to Fig. 2-16-B)**



Marker
Main Loading Gear
Marker
Loading Arm T Unit
Loading Arm S Unit

Fig. 2-16-B

DISASSEMBLY INSTRUCTIONS

2-17: CLUTCH ASS'Y/RING SPRING/CLUTCH LEVER/ CLUTCH GEAR (Refer to Fig. 2-17-A)

1. Remove the Polyslider Washer ①.
2. Remove the Clutch Ass'y and Ring Spring.
3. Remove the Clutch Lever.
4. Remove the Coupling Gear, Coupling Spring and Clutch Gear.

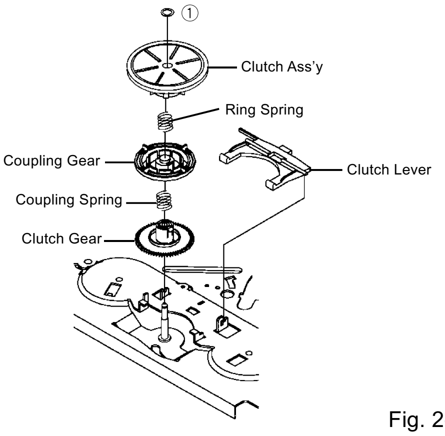

①
Clutch Ass'y
Ring Spring
Coupling Gear
Clutch Lever
Coupling Spring
Clutch Gear

Fig. 2-17-A

NOTE

1. In case of the Clutch Ass'y installation, install it with inserting the spring of the Clutch Ass'y into the dent of the Coupling Gear. **(Refer to Fig. 2-17-B)**

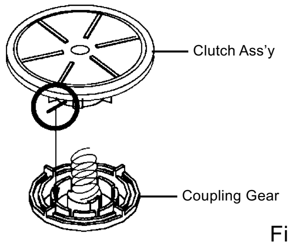
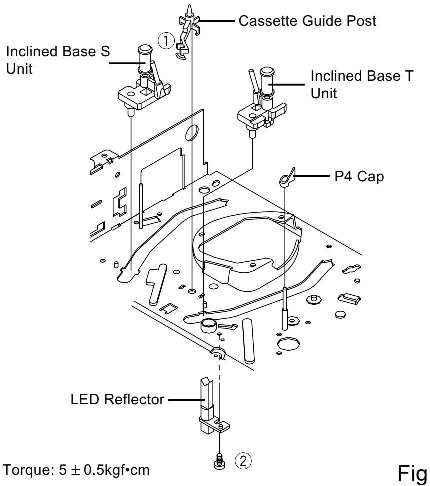

Clutch Ass'y
Coupling Gear

Fig. 2-17-B

2-18: CASSETTE GUIDE POST/INCLINED BASE S/T UNIT/P4 CAP (Refer to Fig. 2-18-A)

1. Remove the P4 Cap.
2. Unlock the support ① and remove the Cassette Guide Post.
3. Remove the Inclined Base S/T Unit.
4. Remove the screw ②.
5. Remove the LED Reflector.


Cassette Guide Post
①
Inclined Base S Unit
Inclined Base T Unit
P4 Cap
LED Reflector
②

• Screw Torque: 5 ± 0.5kgf•cm

Fig. 2-18-A

NOTE

1. Do not touch the roller of Guide Roller.
2. In case of the P4 Cap installation, install it with parallel for "A" and "B" of Fig. 2-18-B.
3. In case of the Cassette Guide Post installation, install correctly as the circled section of Fig. 2-18-C.

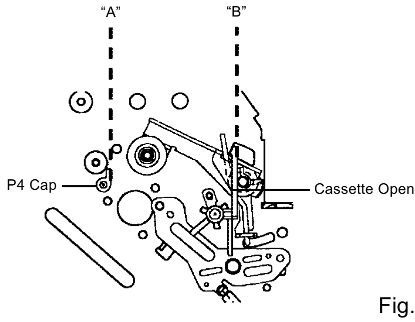

"A"
"B"
P4 Cap
Cassette Opener

Fig. 2-18-B

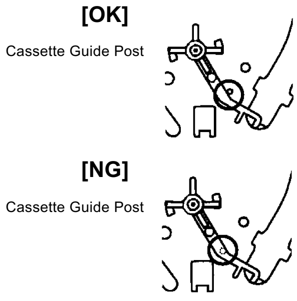

[OK]
Cassette Guide Post
[NG]
Cassette Guide Post

Fig. 2-18-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

3-1: TRAY (Refer to Fig. 3-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the 2 supports ① and remove the Tray.

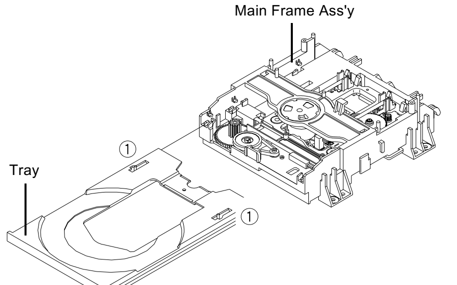

Main Frame Ass'y
①
Tray
①

Fig. 3-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 3-1-B so that the each markers are met.

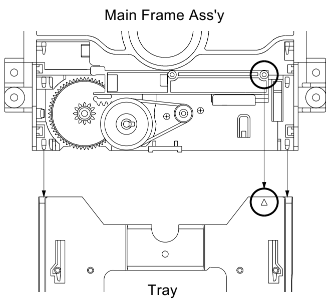
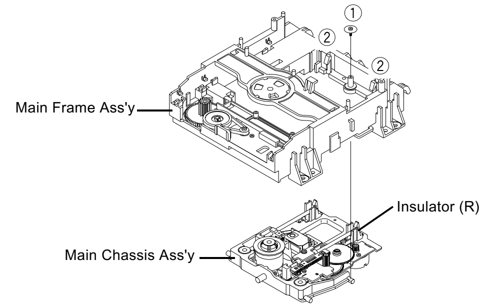

Main Frame Ass'y
Tray

Fig. 3-1-B

3-2: MAIN CHASSIS ASS'Y (Refer to Fig. 3-2-A)

1. Remove the screw ①.
2. Unlock the 2 supports ②.
3. Remove the Insulator (R) from the Main Frame Ass'y.
4. Remove the Main Chassis Ass'y.


①
②
②
Main Frame Ass'y
Insulator (R)
Main Chassis Ass'y

• Screw Torque: 2.0 ± 0.5kgf•cm

Fig. 3-2-A

NOTE

1. In case of the Main Chassis Ass'y, install it from (1) to (4) in order. **(Refer to Fig. 3-2-B)**
2. In case of the Main Chassis Ass'y installation, hook the wire on the Main Frame Ass'y as shown Fig. 3-2-C.

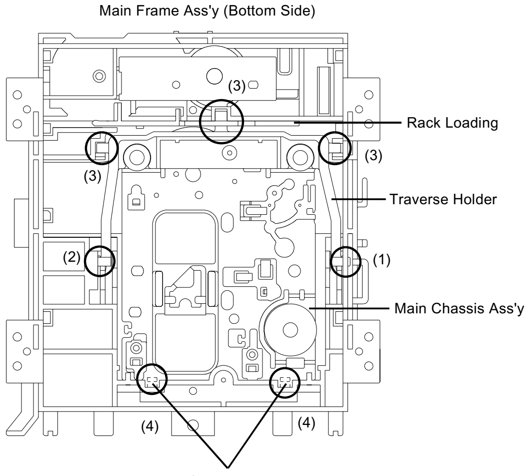

Main Frame Ass'y (Bottom Side)
(3)
Rack Loading
(3)
(3)
Traverse Holder
(2)
(1)
Main Chassis Ass'y
(4)
(4)
Check Lock

Fig. 3-2-B

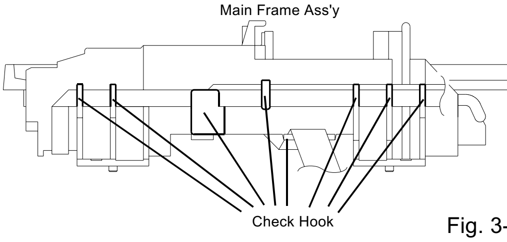
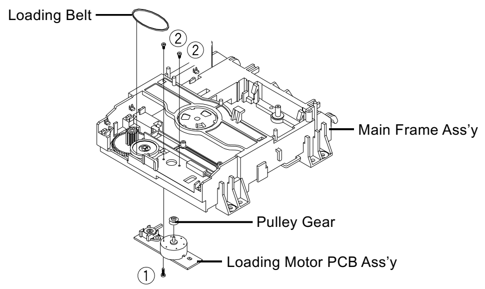

Main Frame Ass'y
Check Hook

Fig. 3-2-C

DISASSEMBLY INSTRUCTIONS

3-3: LOADING MOTOR PCB ASS'Y/ LOADING BELT (Refer to Fig. 3-3-A)

1. Remove the Loading Belt.
2. Remove the screw ①.
3. Remove the 2 screws ②.
4. Remove the Loading Motor PCB Ass'y.
5. Remove the Pulley Gear.


Loading Belt
②
②
Main Frame Ass'y
Pulley Gear
Loading Motor PCB Ass'y
①

- Screw Torque: 2.5 ± 0.3kgf•cm (Screw ①)
- Screw Torque: 1.0 ± 0.3kgf•cm (Screw ②)

Fig. 3-3-A

NOTE

1. In case of the Pulley Motor installation, check if the value of the Fig. 3-3-B is correct.
2. When installing the Loading Motor PCB Ass'y, install it correctly as Fig. 3-3-C.
3. In case of the Loading Motor PCB Ass'y installation, hook the wire on the Main Frame Ass'y as shown Fig. 3-3-C.

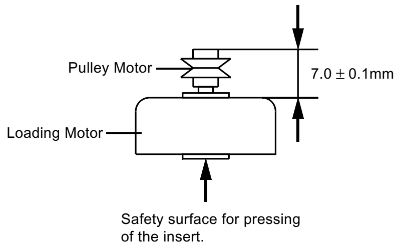

Pulley Motor
7.0 ± 0.1mm
Loading Motor
Safety surface for pressing
of the insert.

Fig. 3-3-B

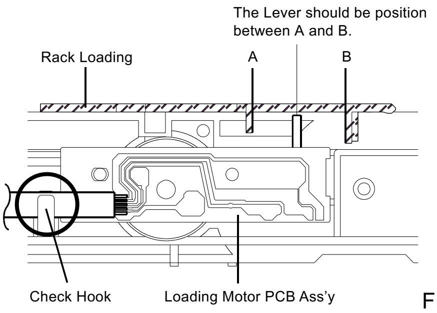

The Lever should be position
between A and B.
Rack Loading
A
B
Check Hook
Loading Motor PCB Ass'y

Fig. 3-3-C

3-4: RACK LOADING/MAIN GEAR/PULLEY GEAR (Refer to Fig. 3-4-A)

1. Press down the catcher ① and slide the Rack Loading.
2. Unlock the support ② and remove the Pulley Gear.
3. Remove the Main Gear.

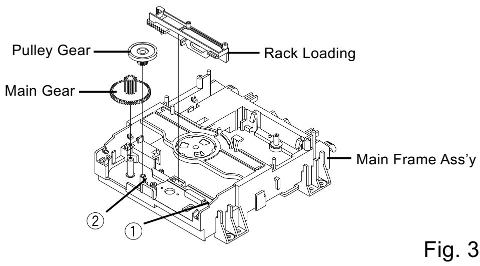

Pulley Gear
Rack Loading
Main Gear
Main Frame Ass'y
②
①

Fig. 3-4-A

NOTE

1. In case of the Rack Loading installation, do not mesh it to the Main Gear as shown the Fig. 3-4-B.

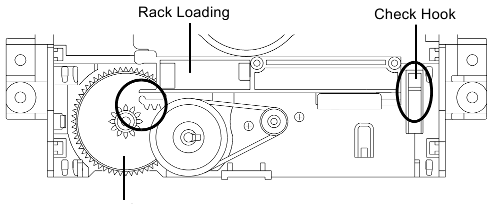

Rack Loading
Check Hook
Main Gear

Fig. 3-4-B

3-5: CLAMPER ASS'Y (Refer to Fig. 3-5-A)

1. Press the Clamper and rotate the Clamper Plate clockwise, then unlock the 3 supports ①.
2. Remove the Clamper Plate, Clamper Magnet and Clamper.

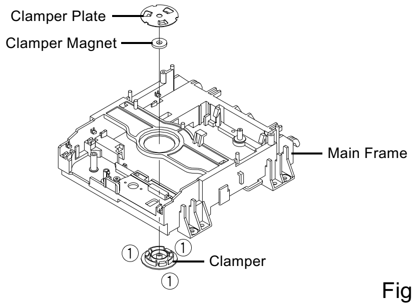

Clamper Plate
Clamper Magnet
Main Frame
①
①
①
Clamper

Fig. 3-5-A

NOTE

1. In case of the Clamper Ass'y installation, install correctly as Fig. 3-5-B.

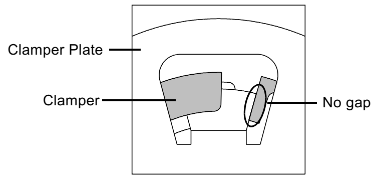

Clamper Plate
Clamper
No gap

Fig. 3-5-B

DISASSEMBLY INSTRUCTIONS

3-6: TRAVERSE HOLDER/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 3-6-A)

1. Remove the Traverse Holder.
2. Remove the 2 Insulator (F).
3. Remove the Insulator (R).

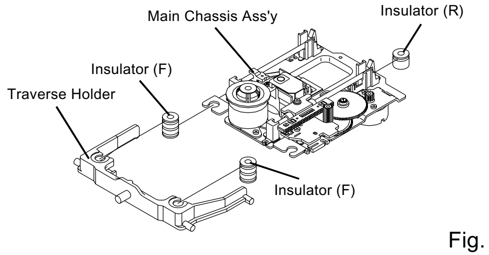

Main Chassis Ass'y
Insulator (R)
Insulator (F)
Traverse Holder
Insulator (F)

Fig. 3-6-A

NOTE

1. In case of the Insulator (F) installation, install correctly as Fig. 3-6-B.
2. In case of the Insulator (R) installation, install correctly as Fig. 3-6-C.

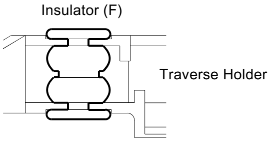

Insulator (F)
Traverse Holder

Fig. 3-6-B

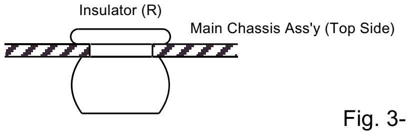
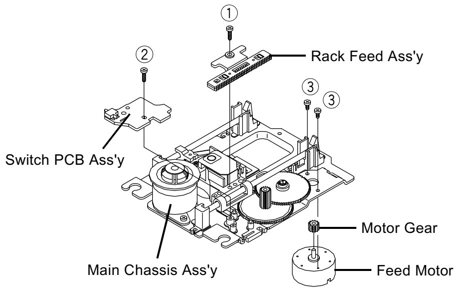

Insulator (R)
Main Chassis Ass'y (Top Side)

Fig. 3-6-C

3-7: RACK FEED ASS'Y/SWITCH PCB ASS'Y/FEED MOTOR (Refer to Fig. 3-7-A)

1. Remove the screw ①.
2. Remove the Rack Feed Ass'y.
3. Remove the screw ②.
4. Remove the Switch PCB Ass'y.
5. Remove the 2 screw ③.
6. Remove the Feed Motor.
7. Remove the Motor Gear.


①
②
Rack Feed Ass'y
③
③
Switch PCB Ass'y
Motor Gear
Main Chassis Ass'y
Feed Motor

- Screw Torque: 5.0 ± 0.3kgf•cm (Screw ①)
- Screw Torque: 3.0 ± 0.3kgf•cm (Screw ②)
- Screw Torque: 1.0 ± 0.3kgf•cm (Screw ③)

Fig. 3-7-A

NOTE

1. When pushing the Rack Feed in the direction of the arrow, it should be restored to the original position by the spring force. **(Refer to Fig. 3-7-B)**
2. In case of the Motor Gear installation, check if the value of the Fig. 3-7-C is correct.
3. When installing the wire of the Switch PCB Ass'y, install it correctly as Fig. 3-7-D.
4. After the assembly of the Main Chassis Ass'y, hook the wire on the Main Chassis Ass'y as shown Fig. 3-7-E.

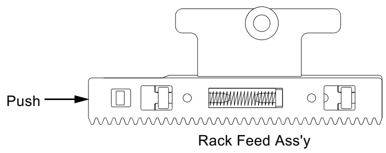

Push
Rack Feed Ass'y

Fig. 3-7-B

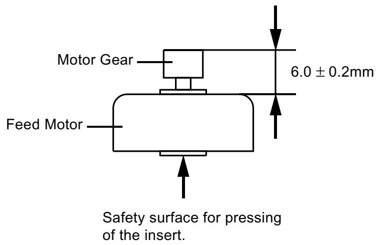
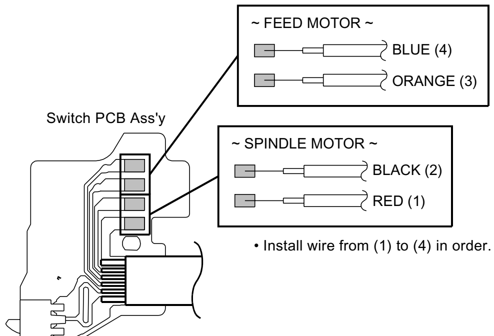
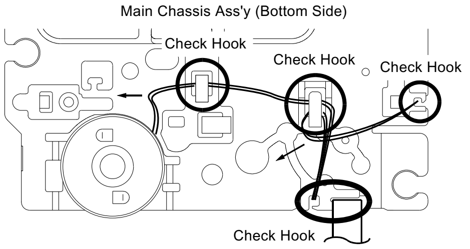

Motor Gear
6.0 ± 0.2mm
Feed Motor
Safety surface for pressing
of the insert.

Fig. 3-7-C


~ FEED MOTOR ~
BLUE (4)
ORANGE (3)
Switch PCB Ass'y
~ SPINDLE MOTOR ~
BLACK (2)
RED (1)

- Install wire from (1) to (4) in order.

Fig. 3-7-D


Main Chassis Ass'y (Bottom Side)
Check Hook
Check Hook
Check Hook
Check Hook

- Loosen the wire in the direction of the arrow.

Fig. 3-7-E

DISASSEMBLY INSTRUCTIONS

4. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 4-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

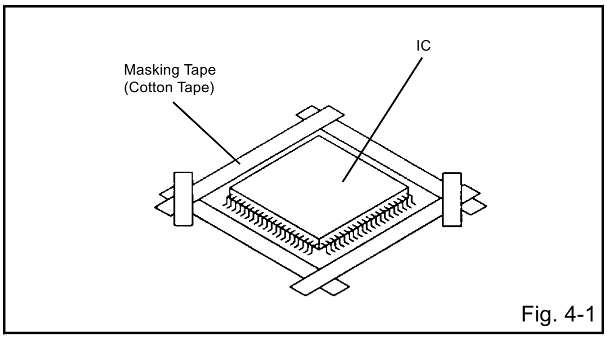

IC
Masking Tape
(Cotton Tape)

Fig. 4-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 4-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

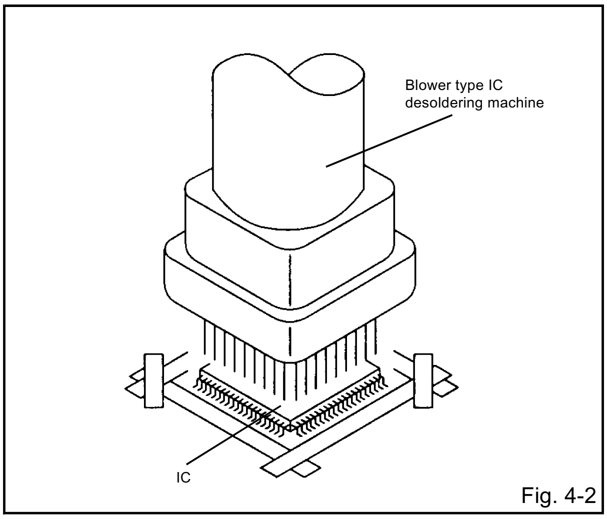

Blower type IC
desoldering machine
IC

Fig. 4-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 4-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

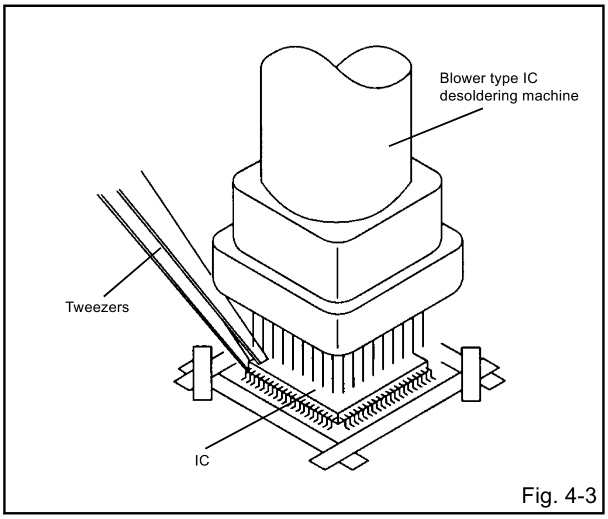

Blower type IC
desoldering machine
Tweezers
IC

Fig. 4-3

4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 4-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

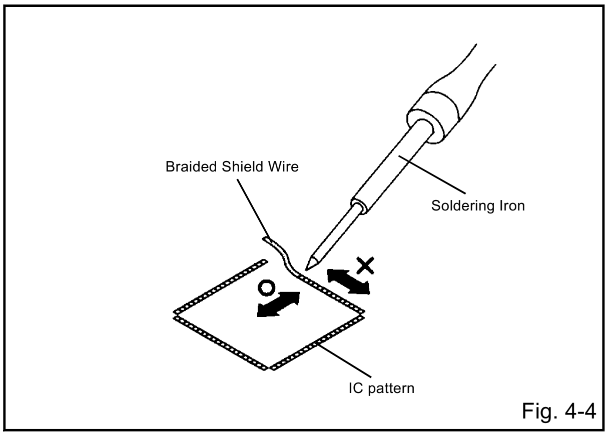

Braided Shield Wire
Soldering Iron
○
×
IC pattern

Fig. 4-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 4-5.)**

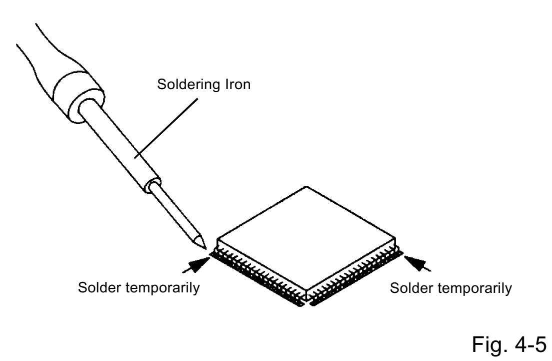

Soldering Iron
Solder temporarily
Solder temporarily

Fig. 4-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 4-6.)**

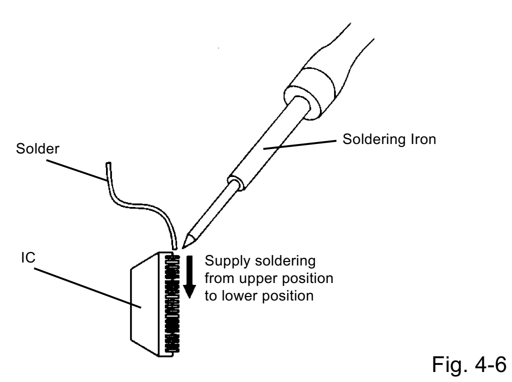

Solder
Soldering Iron
IC
Supply soldering
from upper position
to lower position

Fig. 4-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 4-7.)**

   NOTE

   Do not absorb the solder to excess.

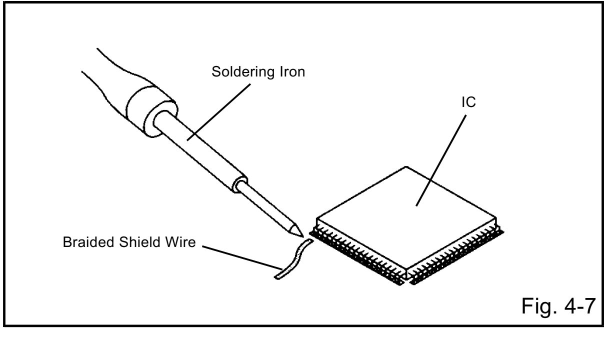

Soldering Iron
IC
Braided Shield Wire

Fig. 4-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 4-8.)**

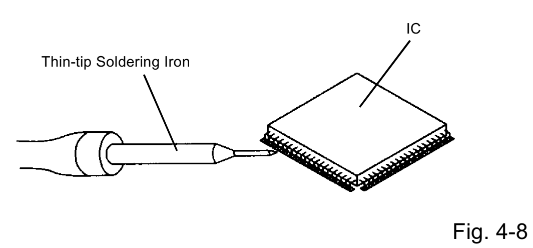

IC
Thin-tip Soldering Iron

Fig. 4-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

KEY TO ABBREVIATIONS

A	**A/C**	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	**BGP**	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	**C**	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	**DATA (SY-CE)**	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	**E**	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	**F**	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flip-flop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	**GEN**	:	Generator
	GND	:	Ground
H	**H.P.F**	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	**IC**	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	**KIL**	:	Killer
L	**L**	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	**M**	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mecha State Switch
N	**NC**	:	Non Connection
	NR	:	Noise Reduction
O	**OSC**	:	Oscillator
	OPE	:	Operation
P	**PB**	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	**R**	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	**S. CLK**	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound Intermediate Frequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play

KEY TO ABBREVIATIONS

S	**STB**	:	Serial Strobe
	SW	:	Switch
	SYNC	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	**TR**	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	**UNREG**	:	Unregulated
V	**V**	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	**X'TAL**	:	Crystal
Y	**Y/C**	:	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit or on the main unit and on the remote control for more than a standard time in the appropriate condition. (See below chart.)
In case of the main unit and remote control, press the remote control buttons first, then press the main unit buttons.

Set Condition	Set Key	Set Key	Standard Time	Operations
VCR mode	CH UP	FF	2 sec.	PLAY/REC total hours are displayed on the TV Monitor. Refer to the “PREVENTIVE CHECKS AND SERVICE INTERVALS” (CONFIRMATION OF HOURS USED). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the “WHEN REPLACING EEPROM (MEMORY) IC”.
VCR mode	CH UP	PLAY	2 sec.	Initialization of the factory on VCR. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, and PLAY/REC total hours.
VCR mode (Playback)	CH UP	STOP	2 sec.	Adjust the PG SHIFTER automatically. Refer to the “ELECTRICAL ADJUSTMENT”.
Power Off	CH DOWN	POWER	2 sec.	VCR operation mode at no connection of DVD. Refer to the “PREPARATION FOR SERVICING” NOTE: Although the DVD is connected, the DVD mode cannot be selected.

Set Condition	Set Key	Remocon Key	Standard Time	Operations
DVD mode (No disc)	REC	4	2 sec.	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing. This function will only work without the setting of DVD disc at DVD mode.
DVD mode (Stop)	REC	6	2 sec.	DVD Write mode. Refer to the “RE-WRITE FOR DVD FIRMWARE”. NOTE: Do not use this for the normal servicing.
DVD mode (Stop)	STOP	1	3 sec.	Check for the firmware version. Refer to the “RE-WRITE FOR DVD FIRMWARE”. NOTE: Do not use this for the normal servicing.
DVD mode (No disc)	STOP	7	3 sec.	Releasing of PARENTAL LOCK. Refer to the “PARENTAL CONTROL - RATING LEVEL”. NOTE: The function will only work without the setting of DVD disc at DVD mode.
DVD mode (Stop)	STOP	CM SKIP	3 sec.	Tray cannot be opened. Refer to the “TRAY LOCK”. NOTE: No indications on the screen when the Tray Lock is setting.

Method	Operations
Press the ATR button on the remote control for more than 2 seconds during PLAY.	Adjusting of the Tracking to the center position. Refer to the “MECHANICAL ADJUSTMENT” (GUIDE ROLLER) and “ELECTRICAL ADJUSTMENT” (PG SHIFTER).
Make the short circuit between the test point of SERVICE and the GND.	The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape. Refer to the “PREPARATION FOR SERVICING”

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage.
Parts replacing time does not mean the life span for individual parts.
Also, long term storage or misuse may cause transformation and aging of rubber parts.
The following list means standard hours, so the checking hours depends on the conditions.

Time Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	2,500 hours	Notes
Audio Control Head	■	■	■	●	●	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	●	●	
Capstan Belt		●	●	●	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	●	●	●	●	
Capstan DD Unit		●	●	●	●	
Loading Motor					●	
Tension Band		●	●	●	●	
T Brake Band		●	●	●	●	
Clutch Ass'y		●	●	●	●	
Idler Arm Ass'y		●	●	●	●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	●	●	●	●	Clean the Head

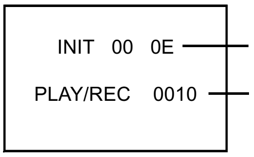
■ : Clean
● : Check it and if necessary, replace it.

CONFIRMATION OF HOURS USED

PLAY/REC total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to “0”.

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the VCR mode.
3. Press both CH UP button on the set and the FF button on the set for more than 2 seconds.
   The **Fig. 1** screen will appear on TV Monitor.
4. After the confirmation of using hours, turn off the power.



```
INIT   00   0E
PLAY/REC    0010
```

Initial setting content of MEMORY IC.

PLAY/REC total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

Fig. 1

PREVENTIVE CHECKS AND SERVICE INTERVALS

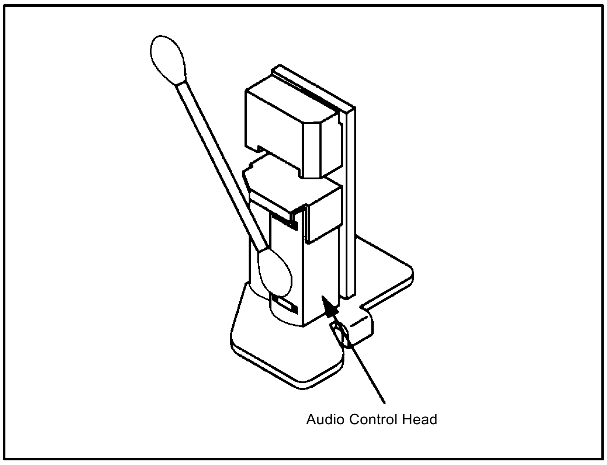
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Clean the Audio Control Head with the cotton stick soaked by alcohol. Clean the full erase head in the same manner. **(Refer to the figure below.)**



2. TAPE RUNNING SYSTEM

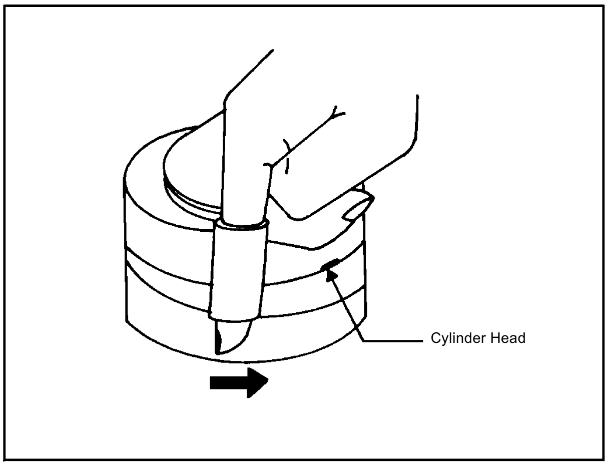
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



RE-WRITE FOR DVD FIRMWARE

1. Turn on the power, and set the DVD mode.

2. Confirm that the “No Disc” will be appeared on the screen.

3. Open the DVD tray.

4. Press both Channel button **(6)** on the remote control and the REC button on the set for more than 2 seconds.

5. Press OPEN/CLOSE button on the unit to check if all the keys on the unit do not function.
   NOTE: To check if DVD Write mode is set.
   When inserting Up-Date Disc at Non DVD Write mode, the read error will happen.

6. Place the Up-Date Disc and close the tray by hand. **(Refer to SERVICING FIXTURE AND TOOLS)**

7. Automatic read will start and "CD-R UPDATE PROCESS" will be displayed on the screen.
   At this time, the horizontal noise lines may appear. But no problem.

8. Approxi. 20 seconds later, the tray will open automatically. Remove the Up-Date Disc.

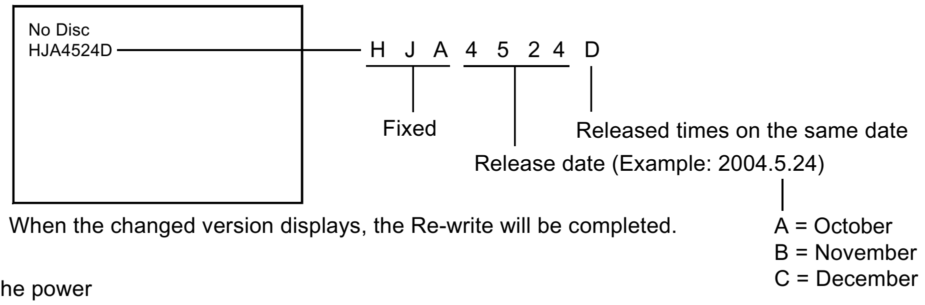
9. Then, Approxi. 40 seconds later, the above indication will disappear and the tray will close automatically.
   When the "No Disc" appears on the screen, the write will end.
   NOTE: Do not turn off the unit on the way or push the tray by hand to close it.
   Up-Date error will happen and can not be done with the Up-Date of Up-Date Disc.

10. Unplug the AC cord, then plug it in.

11. **After the write, set to the initializing of shipping.**
    Set to the DVD mode, press both Channel button **(4)** on the remote control and the REC button on the set for more than 2 seconds.

12. The "INITIALIZE 5 ---> COMPLETE" will appear on the screen.
    Then unplug the AC cord, and plug it in.

13. **CHECK FOR THE FIRMWARE VERSION**
    Set to the DVD mode, press both Channel button **(1)** on the remote control and the STOP button on the set for more than 3 seconds.
    Firmware version will be displayed on the top left of the screen.



When the changed version displays, the Re-write will be completed.

14. Turn off the power

WHEN REPLACING EEPROM (MEMORY) IC

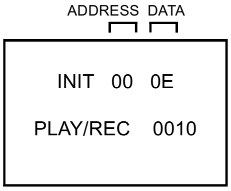
If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: INI 34 and INI 35 cannot be set. Because, the total time for the PLAY/REC of the main unit is recorded.

INIT	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	0E	32	DE	60	64	64	4A	86	0B	2B	86	32	8A	08	0A	01
10	AF	97	95	8A	A0	57	31	04	88	A5	9F	3A	00	10	BF	00
20	3A	11	22	70	61	2A	3A	00	0B	00	40	E5	9A	B0	00	37
30	03	17	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 1

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the VCR mode.
3. Press both CH UP button on the set and the FF button on the set for more than 2 seconds.
   ADDRESS and DATA will appear on TV Monitor as **Fig 1**.



INIT 00 0E

PLAY/REC 0010

Fig. 1

4. ADDRESS is now selected and should “blink”. Using the SET + or - button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press ENTER to select DATA. When DATA is selected, it will “blink”.
6. Again, step through the DATA using SET + or - button until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

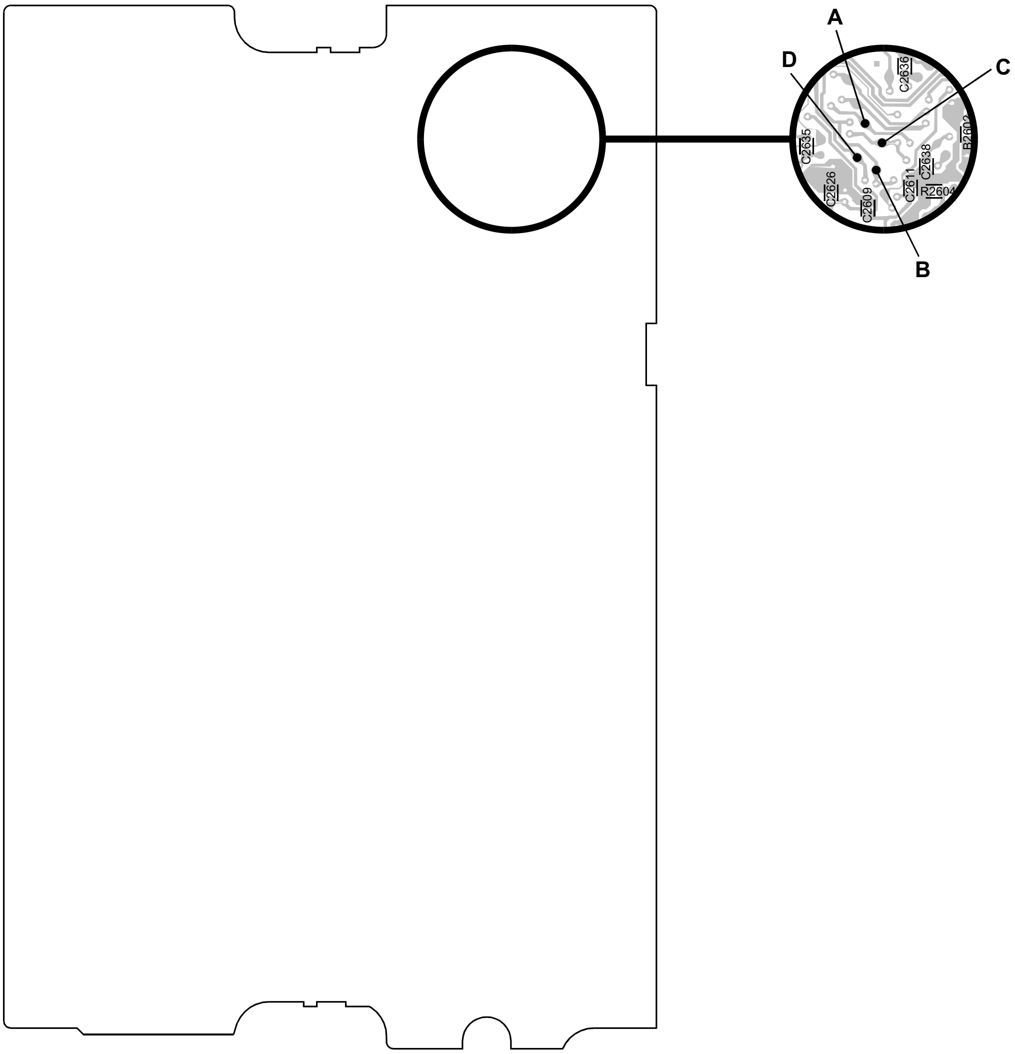
10. Turn on the POWER, and set to the VCR mode.
11. Press both CH UP button on the set and the PLAY button on the set for more than 2 seconds.
12. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

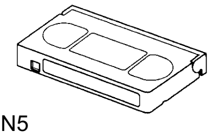
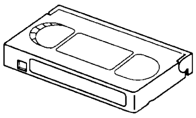
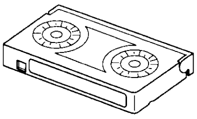
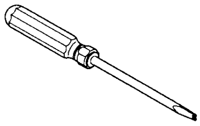
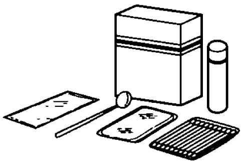
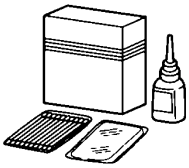
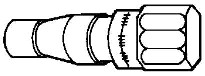
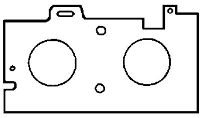
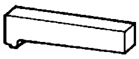
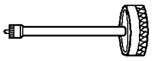
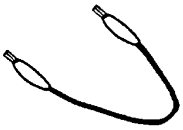
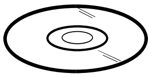
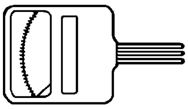
RF SIGNAL CHECK OF DVD PCB

RF signal check can be done at the following A~D resistance points on the DVD PCB.

DVD PCB (BOTTOM SIDE)


A
D
C
B
C2636
C2635
R2602
C2638
C2626
C2611
C2609
R2604

SERVICING FIXTURES AND TOOLS

Alignment Tape  ST-N5 ST-NF	Back tension cassette gauge  70909103	Torque cassette gauge (KT-300NR)  70909199	Taper nut driver  70909228
VTR cleaning kit 	VTR lubrication kit 	Grease 	JG002B Adapter JG002E Dial Torque Gauge (10~90gf•cm) JG002F (60~600gf•cm) 
JG022 Master Plane 	JG024A Reel Disk Height Adjustment Jig 	JG153 X Value Adjustment Screwdriver 	JG154 Cable 
JG176 Up-Date Disc 	JG185 Tentelometer 		

Ref. No.	Part No.	Parts Name	Remarks
JG002B	APJG002B00	Adapter	VSR Torque, Brake Torque (S Reel/T Reel Ass'y)
JG002E	APJG002E00	Dial Torque Gauge (10~90gf•cm)	Brake Torque (T Reel Ass'y)
JG002F	APJG002F00	Dial Torque Gauge (60~600gf•cm)	VSR Torque, Brake Torque (S Reel)
JG022	APJG022000	Master Plane	Reel Disk Height Adjustment
JG024A	APJG024A00	Reel Disk Height Adjustment Jig	Reel Disk Height Adjustment
JG153	APJG153000	X Value Adjustment Screwdriver	X Value Adjustment
JG154	APJG154000	Cable	Used to connect the test point of SERVICE and GROUND
JG176	APJG176047	Up-Date Disc	Up-Date of the Firmware
JG185	APJG185000	Tentelometer	Confirmation of Tape Tension on Playback

PREPARATION FOR SERVICING

How to use the Servicing Fixture

1. While pressing the POWER button on the set for more than 2 seconds, press the CH DOWN button on the set simultaneously at the Power OFF. Although the DVD is connected, the DVD mode cannot be selected.
2. Short circuit between **TP3001** and **Ground** with the cable JG154.
   (The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape.)
3. In case of using a cassette tape, press the STOP/EJECT button to insert or eject a cassette tape.
   Turn on the power and re-check the cable before checking the trouble points.

When you servicing with connection of DVD, perform the operations above step 2 to step 3.

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024A)** on the mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A**.
3. While turning the reel and confirm the following points. Check if the surface "A" of reel disk is lower than the surface "B" of reel disk height adjustment jig **(JG024A)** and is higher than the surface "C". If it is not passed, place the height adjustment washers and adjust to 10(+2, -0)mm.
4. Adjust the other reel in the same way.

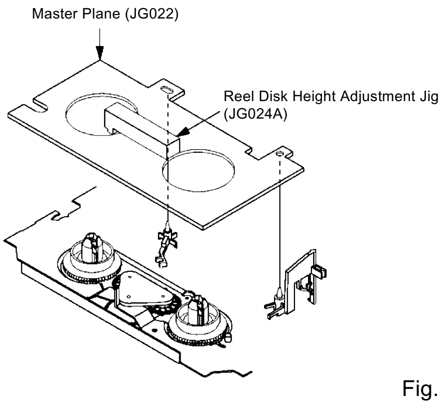

Master Plane (JG022)
Reel Disk Height Adjustment Jig (JG024A)

Fig. 1-1-A

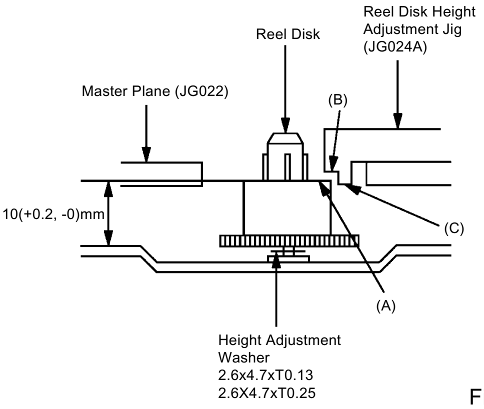

Reel Disk
Reel Disk Height Adjustment Jig (JG024A)
Master Plane (JG022)
(B)
10(+0.2, -0)mm
(C)
(A)
Height Adjustment Washer
2.6x4.7xT0.13
2.6X4.7xT0.25

Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the adjusting section for the Tension Arm position so that the Tension Arm top is within the standard line of Main Chassis.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

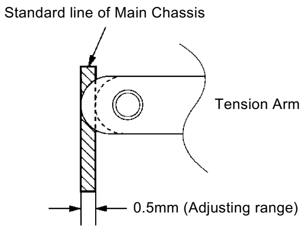

Standard line of Main Chassis
Tension Arm
0.5mm (Adjusting range)

Fig. 1-2-A

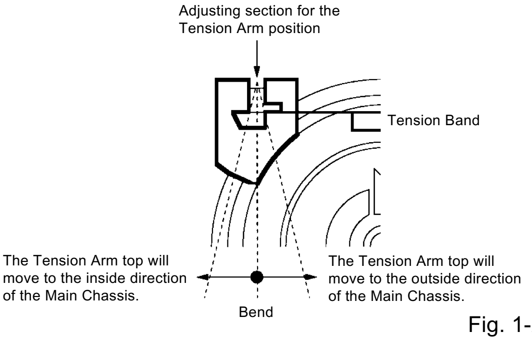

Adjusting section for the Tension Arm position
Tension Band
The Tension Arm top will move to the inside direction of the Main Chassis.
The Tension Arm top will move to the outside direction of the Main Chassis.
Bend

Fig. 1-2-B

1-3: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. Load a video tape (T-120) recorded in standard speed mode. Set the unit to the PLAY mode.
2. Install the tentelometer (JG185) as shown in **Fig. 1-3**. Confirm that the meter indicates 20 ± 2gf in the beginning of playback.

- USING A CASSETTE TYPE TORQUE TAPE **(KT-300NR)**

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-2)**, load the cassette type torque tape **(KT-300NR)** and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 50~90gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

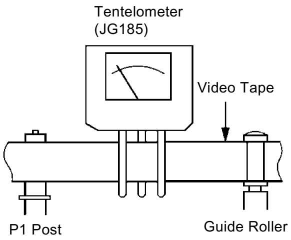

Tentelometer (JG185)
Video Tape
P1 Post
Guide Roller

Fig. 1-3

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF VSR TORQUE

1. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Set to the Picture Search (Rewind) mode. **(Refer to Fig.1-4-B)**
2. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

1-5: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A**.
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Turn the Torque Gauge **(JG002F)** clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A**.
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge **(JG002E)** and Adapter **(JG002B)** on the T reel. Turn the Torque Gauge **(JG002E)** counterclockwise.
4. Then, confirm that it indicates 30~50gf•cm.

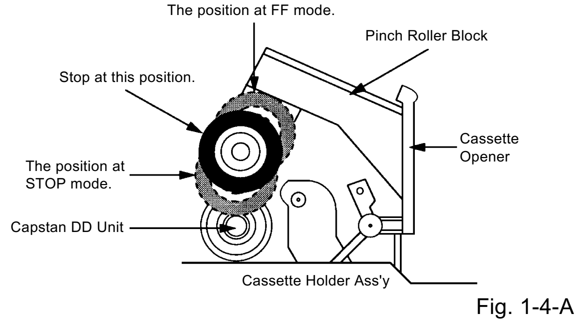

The position at FF mode.
Pinch Roller Block
Stop at this position.
Cassette Opener
The position at STOP mode.
Capstan DD Unit
Cassette Holder Ass'y

Fig. 1-4-A

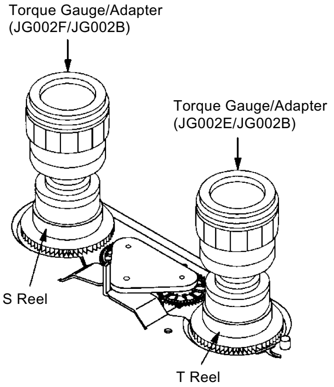

Torque Gauge/Adapter (JG002F/JG002B)
Torque Gauge/Adapter (JG002E/JG002B)
S Reel
T Reel

Fig. 1-4-B

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-4	Idler Ass'y/Clutch Ass'y
1-5	S Reel side: S Reel/Tension Band/Tension Connect/Tension Arm Ass'y T Reel side: T Reel/T Brake Band//T Brake Spring/T Brake Arm

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape (Monoscope of ST-N5 MODE2).
2. Connect CH-1 of the oscilloscope to **TP101 (Envelope)** and CH-2 to **TP3002 (SW Pulse)**.
3. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
4. When observing the envelope, adjust the Taper Nut Driver slightly until the envelope will be flat.
   Even if you press the Tracking Button, adjust so that flatness is not moved so much.
5. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-B**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
6. Adjust the PG shifter during playback.
   (Refer to the ELECTRICAL ADJUSTMENTS)

NOTE

After adjustment, confirm and adjust A/C head.
(Refer to item 2-2)

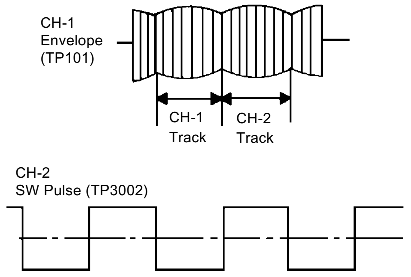

CH-1
Envelope
(TP101)
CH-1 Track
CH-2 Track
CH-2
SW Pulse (TP3002)

Fig. 2-1-A

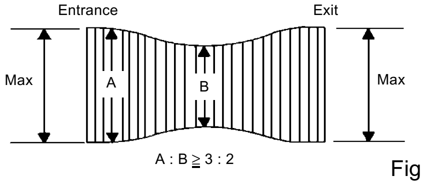

Entrance
Exit
Max
A
B
Max
A : B ≧ 3 : 2

Fig. 2-1-B

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape (Monoscope of ST-N5 MODE2).
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Cap as shown in **Fig. 2-2-A**.
   a) When the reflected picture is distorted, turn the screw ① clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw ① counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw ② to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C**.
   c) When the height is not correct, turn the screw ③ to adjust the height. Then, adjust the 1~3 again.

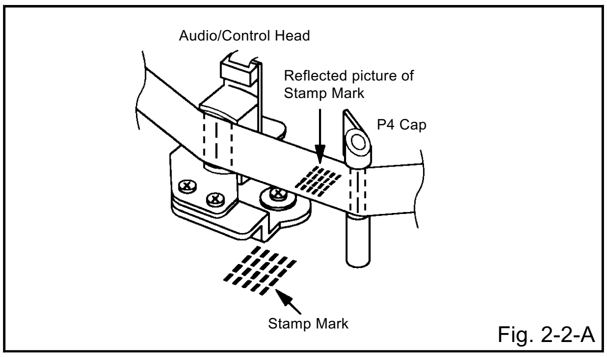


Fig. 2-2-A

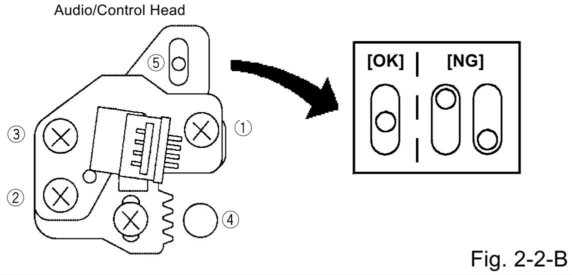


Fig. 2-2-B

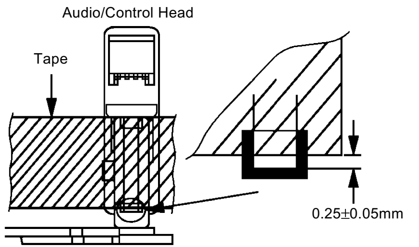


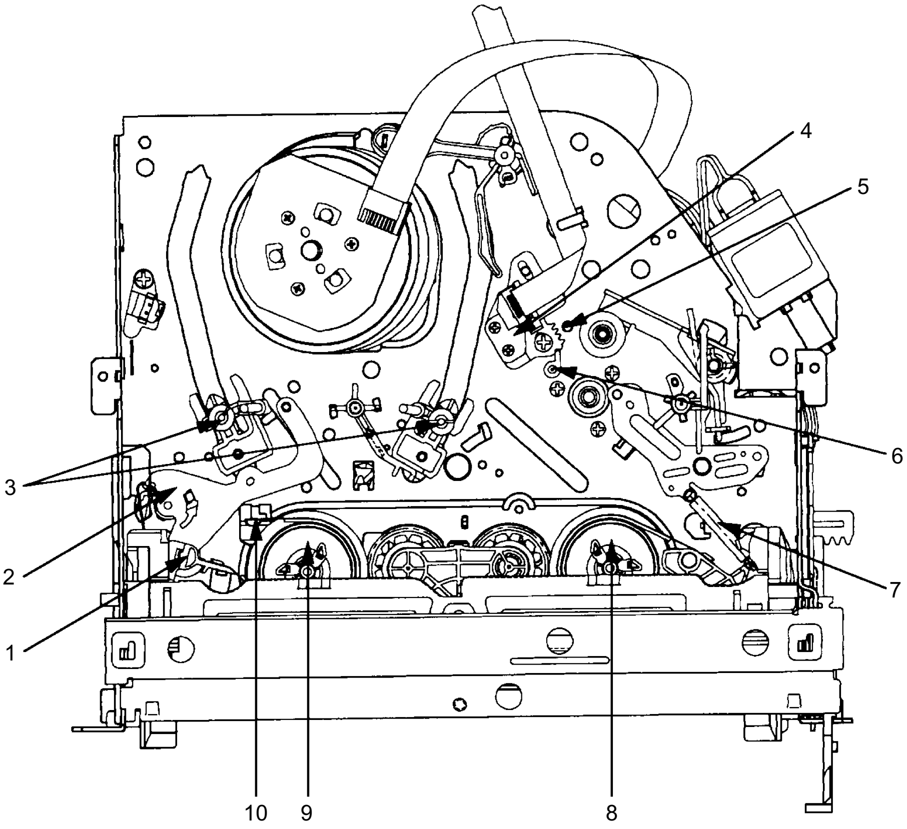
Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

1. Confirm and adjust the height of the Reel Disk. **(Refer to item 1-1)**
2. Confirm and adjust the position of the Tension Post. **(Refer to item 1-2)**
3. Adjust the Guide Roller. **(Refer to item 2-1)**
4. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
5. Connect CH-1 of the oscilloscope to **TP3002** and CH-2 to **TP101**.
6. Playback the VHS Alignment Tape (Monoscope of ST-N5 MODE2).
7. Press and hold the ATR button on the remote control more than 2 seconds to set tracking to center.
8. Set the X Value adjustment driver **(JG153)** to the ④ of **Fig. 2-2-B**. Adjust X value so that the envelope waveform output becomes maximum. Then, check if the ⑤ section of **Fig. 2-2-B** is on the center position (or rather to the cylinder side). In case of the envelope maximum at the difference position from the center, adjust the matching of picture and sound again.

MECHANICAL ADJUSTMENTS

3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE



1. Tension Connect
2. Tension Arm
3. Guide Roller
4. Audio/Control Head
5. X value adjustment driver hole
6. P4 Post
7. T Brake Spring
8. T Reel
9. S Reel
10. Adjusting section for the Tension Arm position

ELECTRICAL ADJUSTMENTS

Read and perform this adjustment when repairing the circuits or replacing electrical parts or PCB assemblies.

1. BASIC ADJUSTMENT

CAUTION

When you exchange IC and Transistor for a heat sink, apply the silicon grease on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

1-1: PG SHIFTER

CONDITIONS

MODE-PLAYBACK
Input Signal-Alignment Tape

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP3002** and CH-2 to **Video Out Jack**.
2. Playback the alignment tape.
3. Press and hold the ATR button on the remote control more than 2 seconds to set tracking to center.
4. Press both CH UP button on the set and the STOP button on the set for more than 2 seconds.

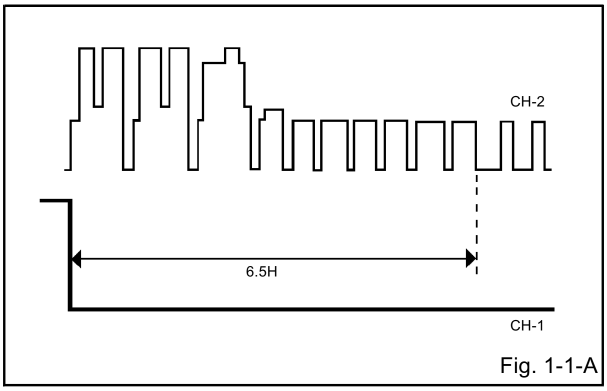


Fig. 1-1-A

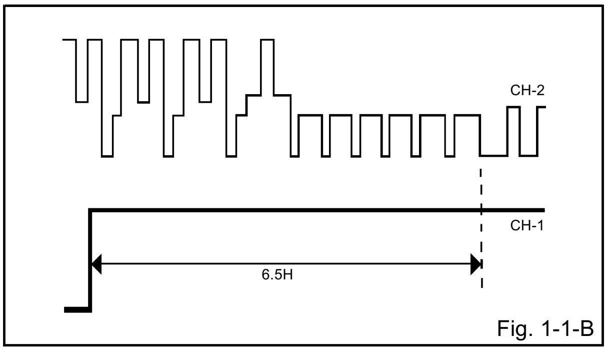
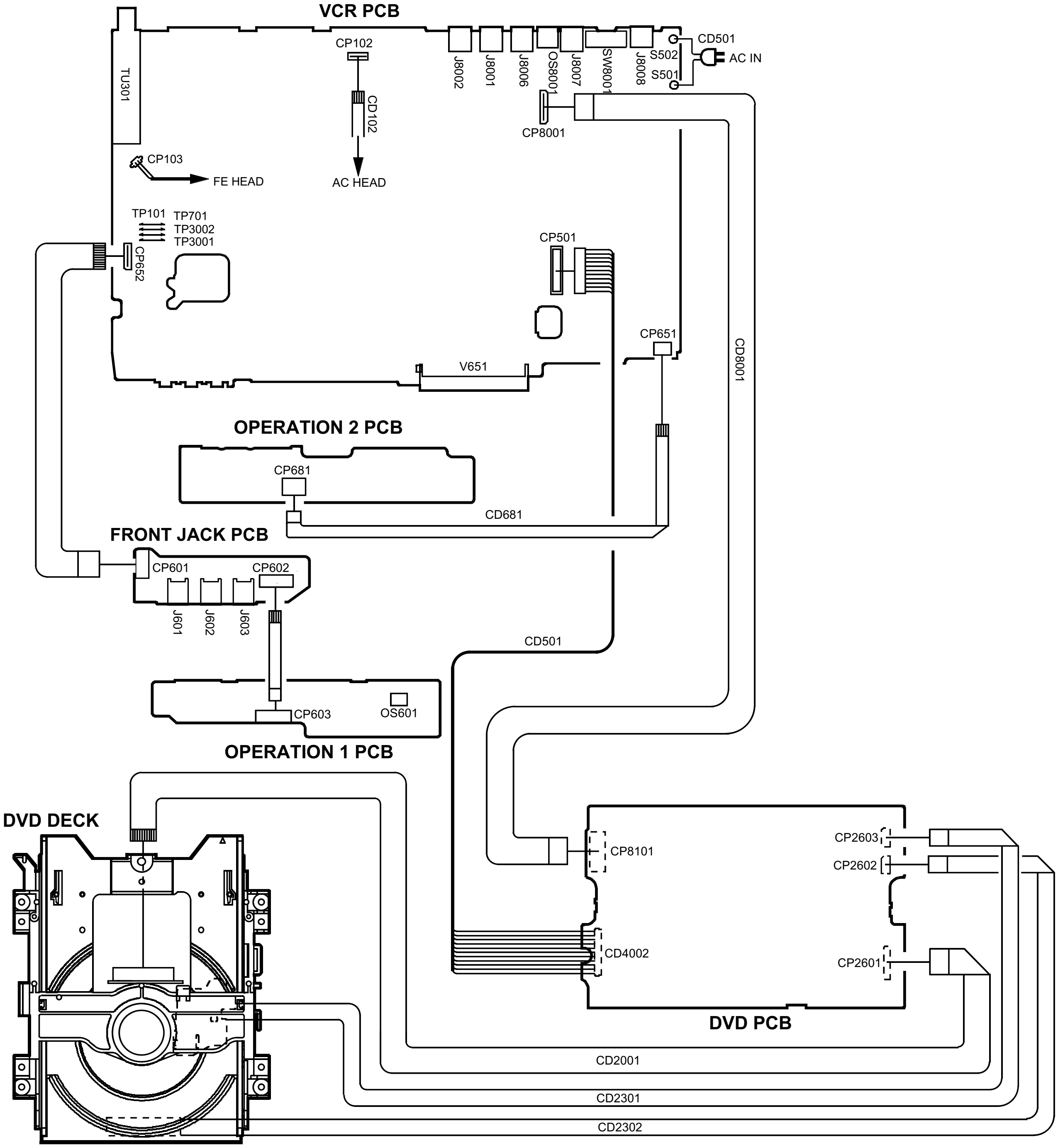


Fig. 1-1-B

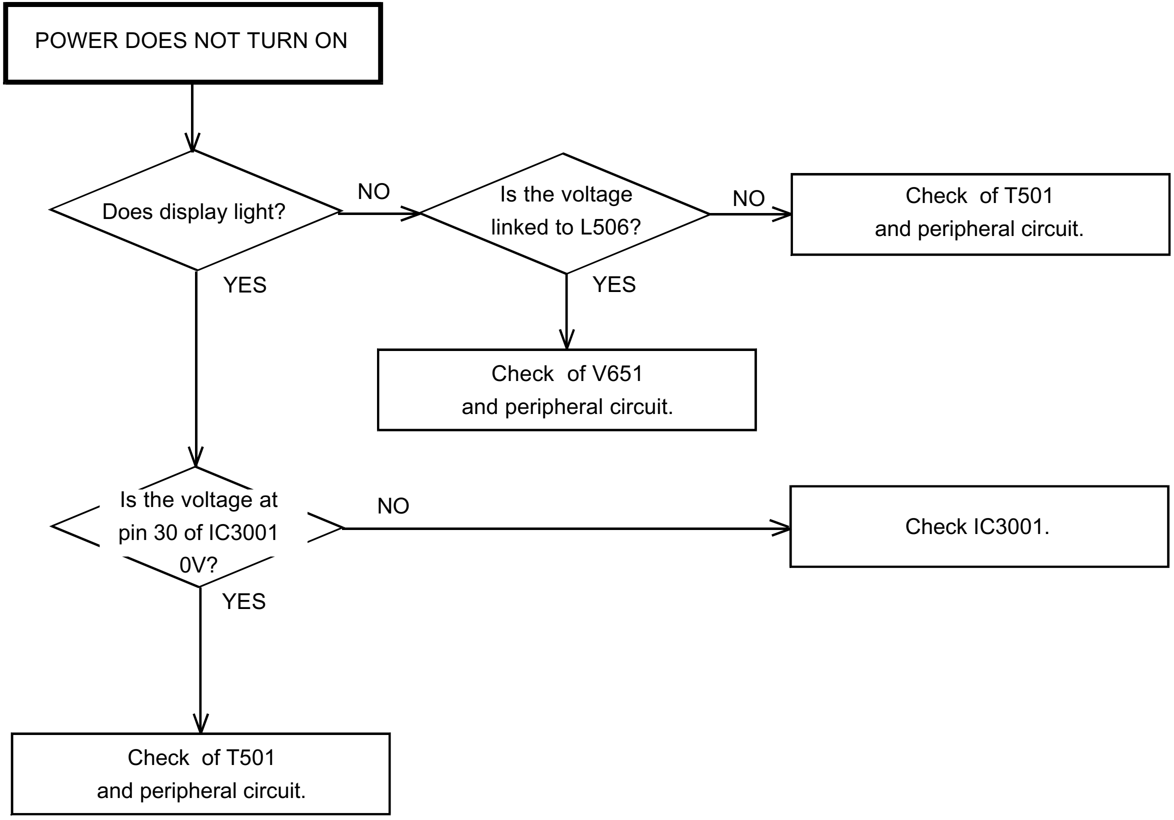
ELECTRICAL ADJUSTMENTS

2. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)

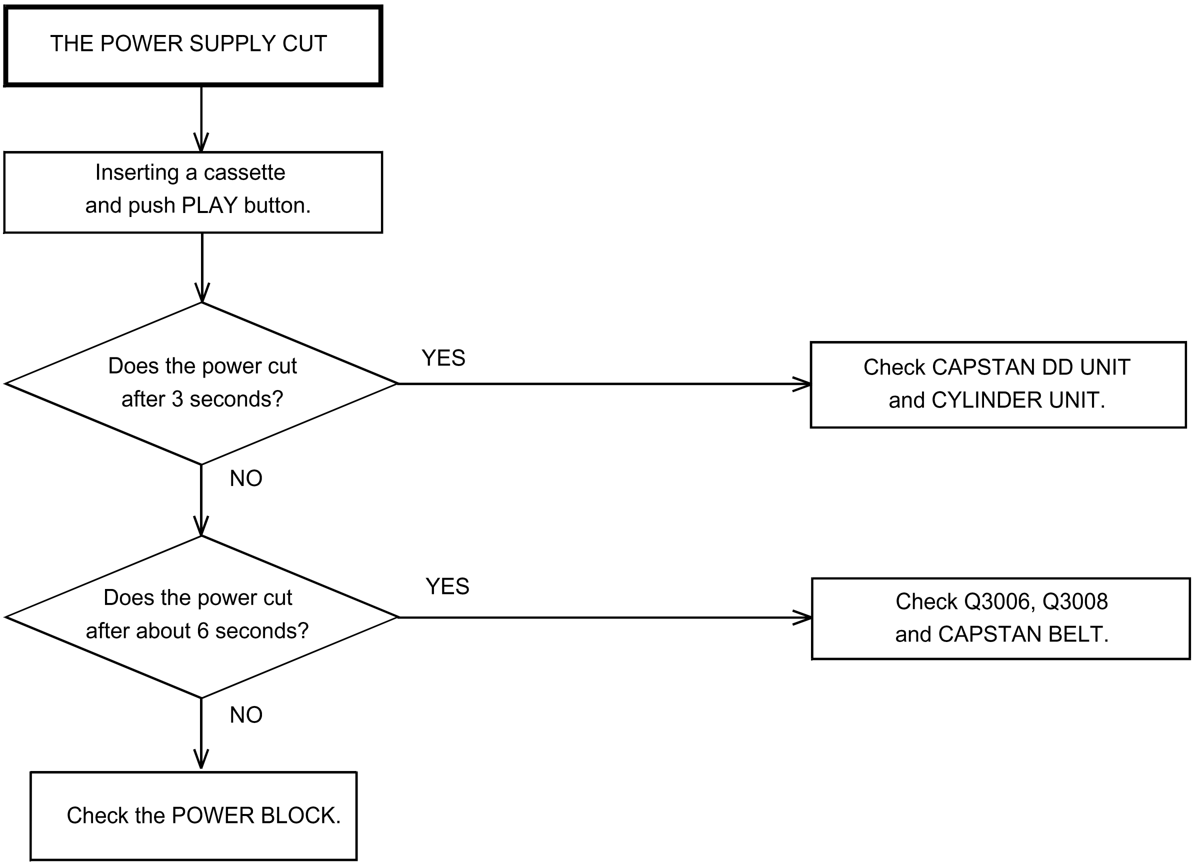

VCR PCB
CP102
J8002
J8001
J8006
OS8001
J8007
SW8001
J8008
S502
S501
CD501
AC IN
TU301
CD102
CP8001
CP103
FE HEAD
AC HEAD
TP101
TP701
TP3002
TP3001
CP652
CP501
CP651
V651
CD8001
OPERATION 2 PCB
CP681
CD681
FRONT JACK PCB
CP601
CP602
J601
J602
J603
CD501
CP603
OS601
OPERATION 1 PCB
DVD DECK
CP8101
CP2603
CP2602
CD4002
CP2601
DVD PCB
CD2001
CD2301
CD2302

TROUBLESHOOTING GUIDE

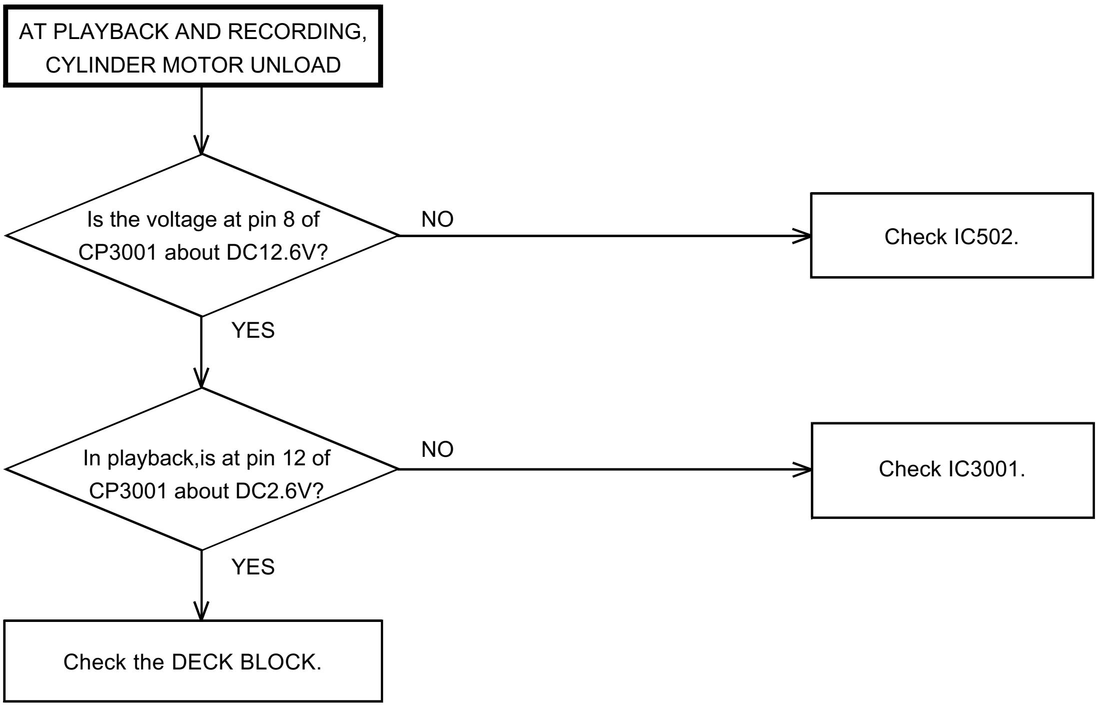
(VCR SECTION)


POWER DOES NOT TURN ON
Does display light?
NO
Is the voltage linked to L506?
NO
Check of T501 and peripheral circuit.
YES
YES
Check of V651 and peripheral circuit.
Is the voltage at pin 30 of IC3001 0V?
NO
Check IC3001.
YES
Check of T501 and peripheral circuit.

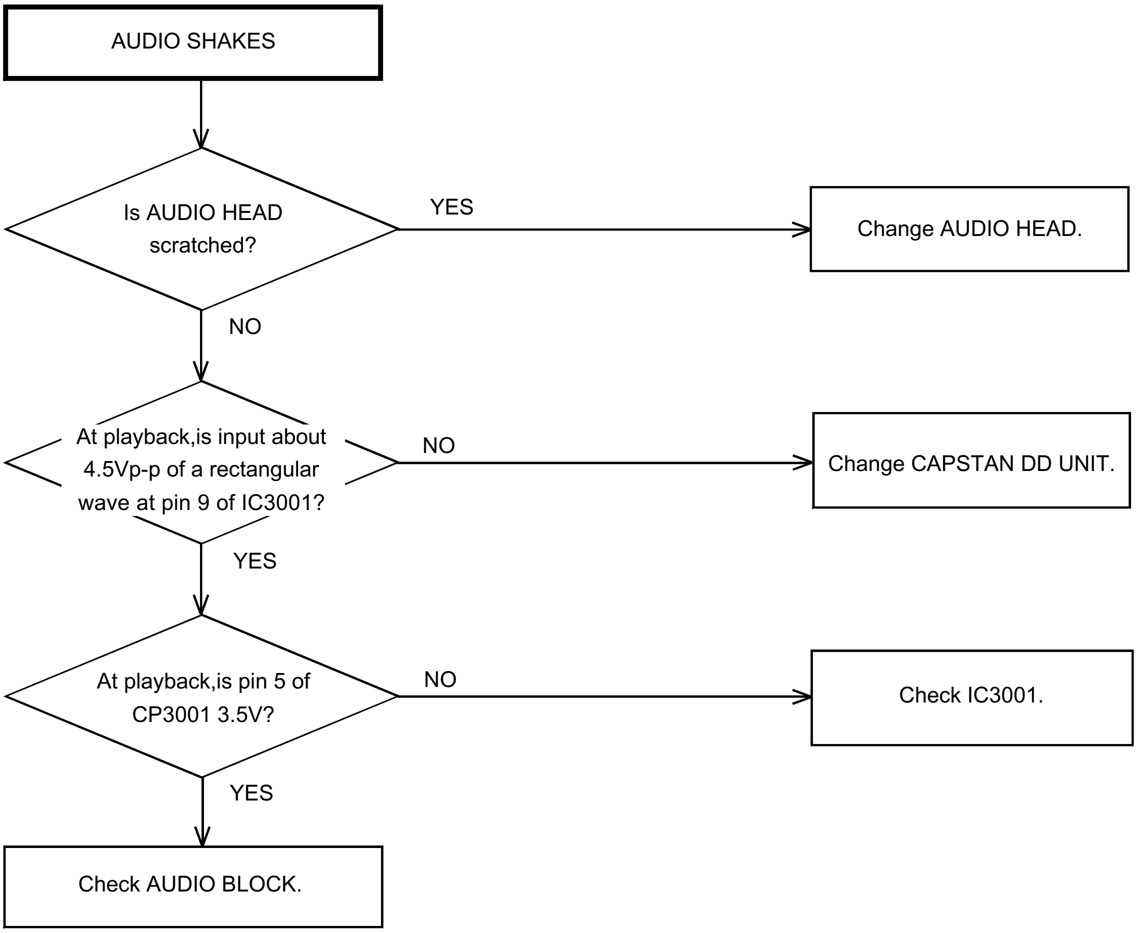
TROUBLESHOOTING GUIDE


THE POWER SUPPLY CUT
Inserting a cassette and push PLAY button.
Does the power cut after 3 seconds?
YES
Check CAPSTAN DD UNIT and CYLINDER UNIT.
NO
Does the power cut after about 6 seconds?
YES
Check Q3006, Q3008 and CAPSTAN BELT.
NO
Check the POWER BLOCK.

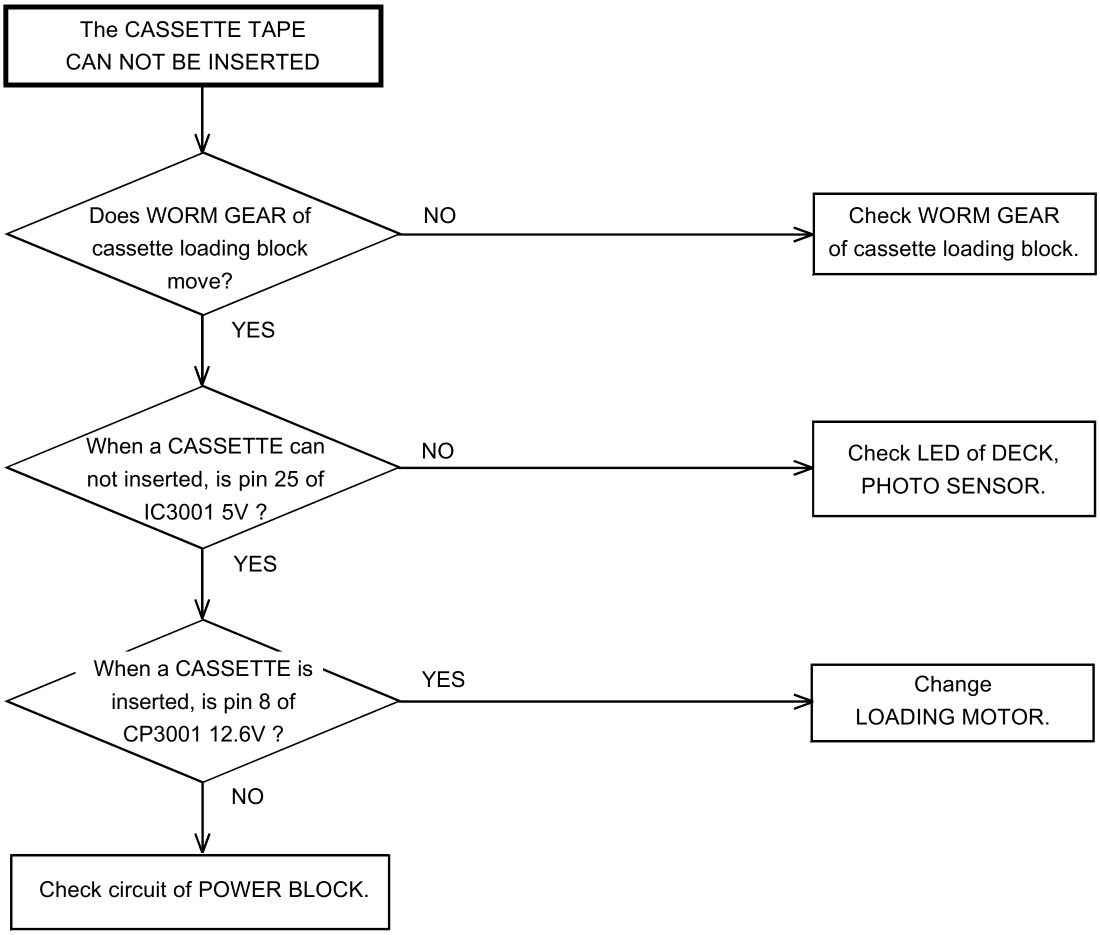
TROUBLESHOOTING GUIDE


AT PLAYBACK AND RECORDING, CYLINDER MOTOR UNLOAD
Is the voltage at pin 8 of CP3001 about DC12.6V?
NO
Check IC502.
YES
In playback,is at pin 12 of CP3001 about DC2.6V?
NO
Check IC3001.
YES
Check the DECK BLOCK.

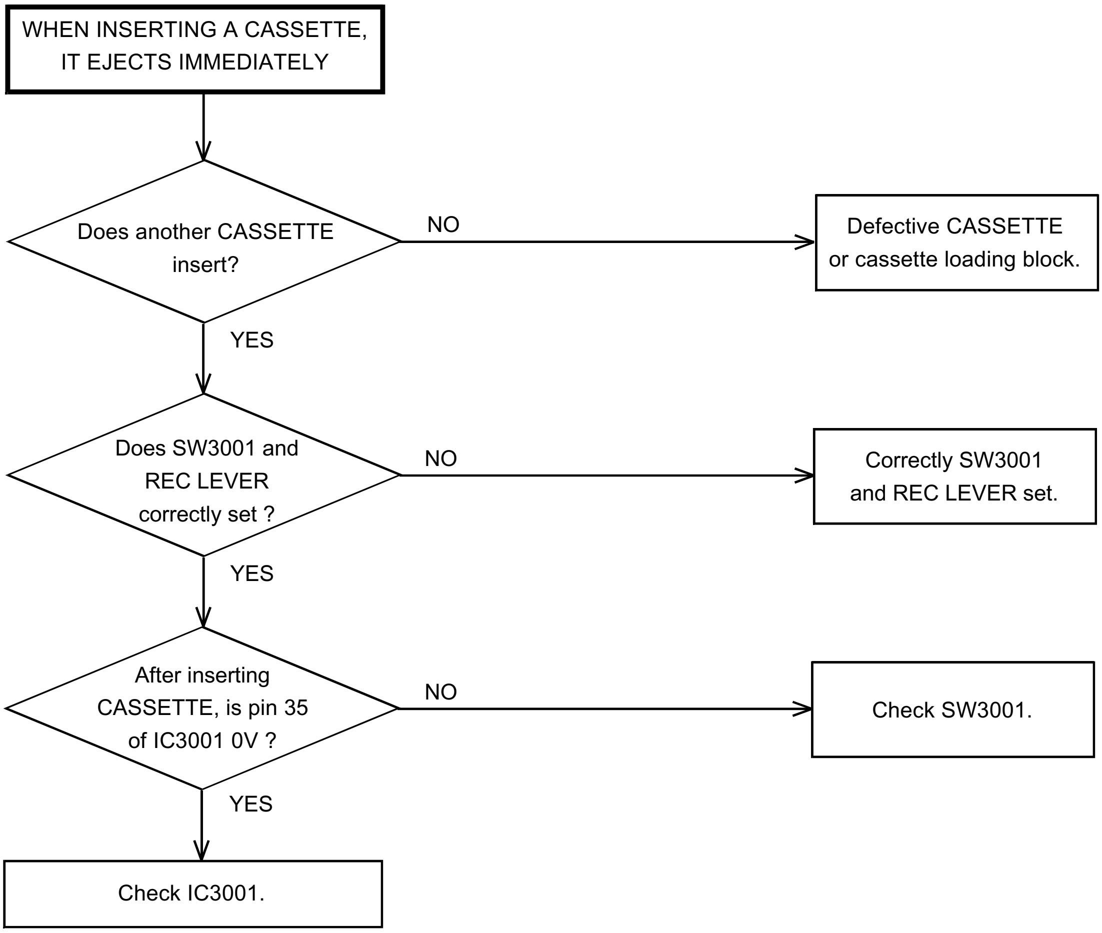
TROUBLESHOOTING GUIDE


AUDIO SHAKES
Is AUDIO HEAD scratched?
YES
Change AUDIO HEAD.
NO
At playback,is input about 4.5Vp-p of a rectangular wave at pin 9 of IC3001?
NO
Change CAPSTAN DD UNIT.
YES
At playback,is pin 5 of CP3001 3.5V?
NO
Check IC3001.
YES
Check AUDIO BLOCK.

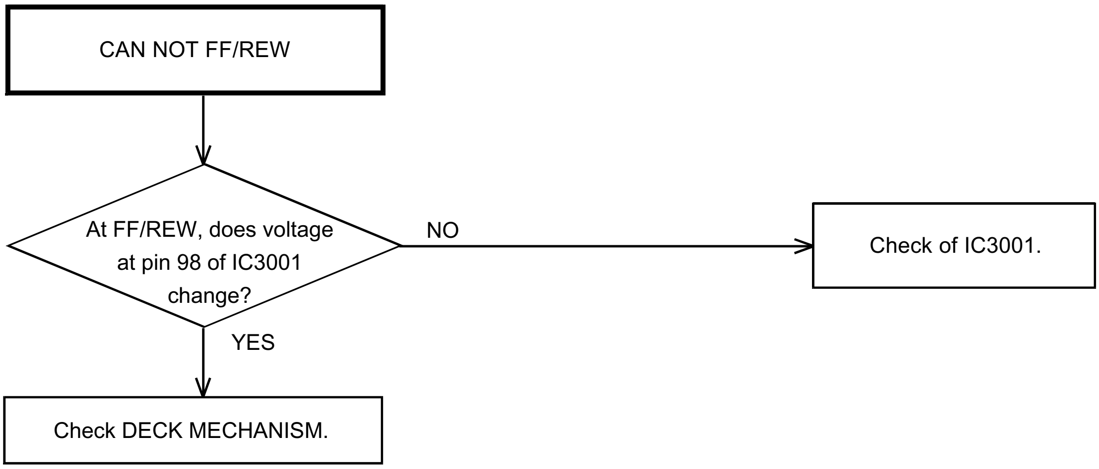
TROUBLESHOOTING GUIDE


The CASSETTE TAPE CAN NOT BE INSERTED
Does WORM GEAR of cassette loading block move?
NO
Check WORM GEAR of cassette loading block.
YES
When a CASSETTE can not inserted, is pin 25 of IC3001 5V ?
NO
Check LED of DECK, PHOTO SENSOR.
YES
When a CASSETTE is inserted, is pin 8 of CP3001 12.6V ?
YES
Change LOADING MOTOR.
NO
Check circuit of POWER BLOCK.

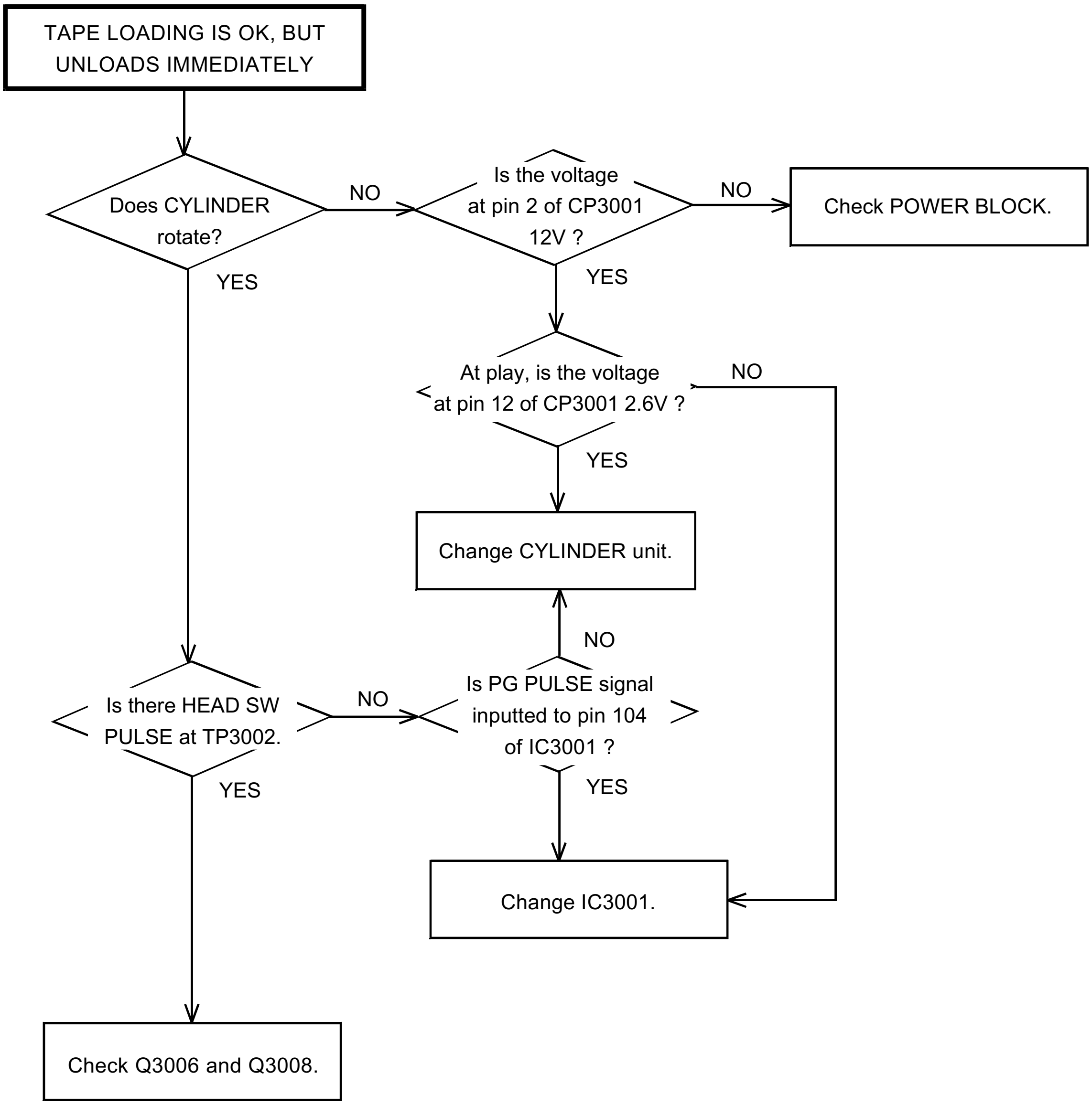
TROUBLESHOOTING GUIDE


WHEN INSERTING A CASSETTE,
IT EJECTS IMMEDIATELY
Does another CASSETTE insert?
NO
Defective CASSETTE or cassette loading block.
YES
Does SW3001 and REC LEVER correctly set ?
NO
Correctly SW3001 and REC LEVER set.
YES
After inserting CASSETTE, is pin 35 of IC3001 0V ?
NO
Check SW3001.
YES
Check IC3001.

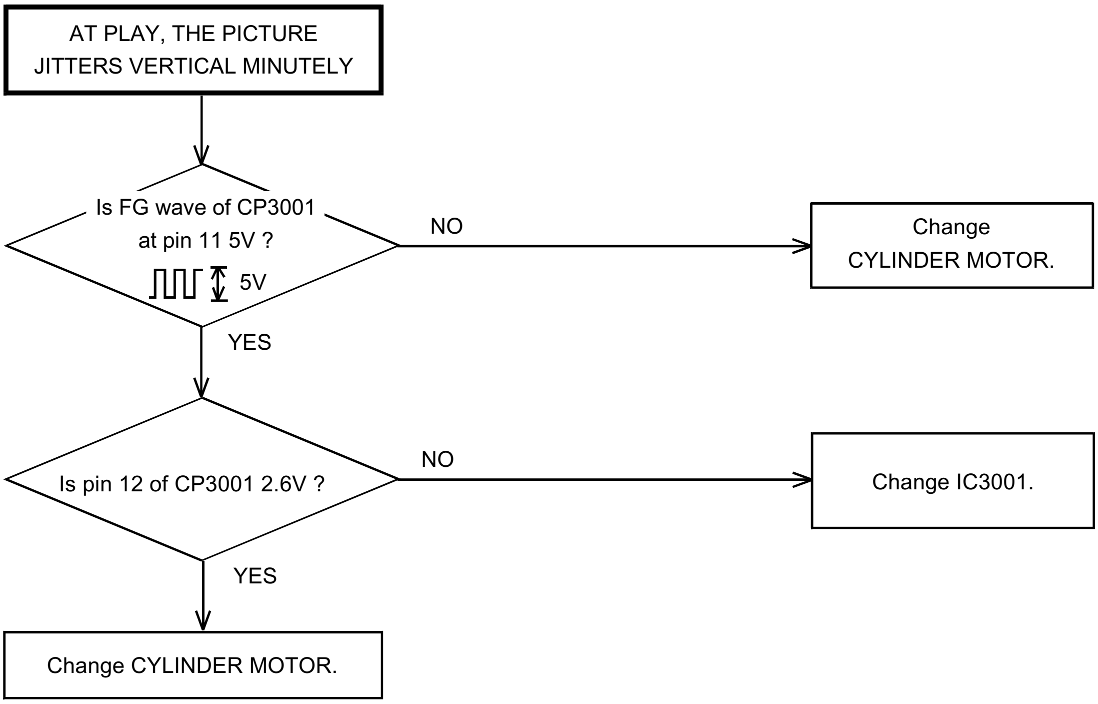
TROUBLESHOOTING GUIDE


CAN NOT FF/REW
At FF/REW, does voltage at pin 98 of IC3001 change?
NO
Check of IC3001.
YES
Check DECK MECHANISM.

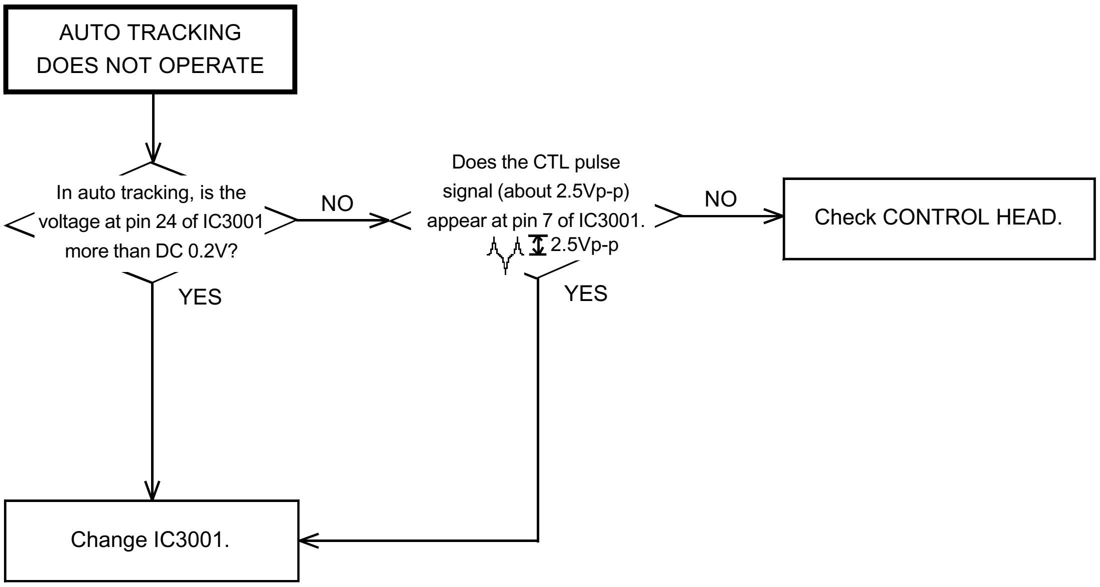
TROUBLESHOOTING GUIDE


TAPE LOADING IS OK, BUT UNLOADS IMMEDIATELY
Does CYLINDER rotate?
NO
YES
Is the voltage at pin 2 of CP3001 12V ?
NO
YES
Check POWER BLOCK.
At play, is the voltage at pin 12 of CP3001 2.6V ?
NO
YES
Change CYLINDER unit.
NO
Is there HEAD SW PULSE at TP3002.
NO
YES
Is PG PULSE signal inputted to pin 104 of IC3001 ?
YES
Change IC3001.
Check Q3006 and Q3008.

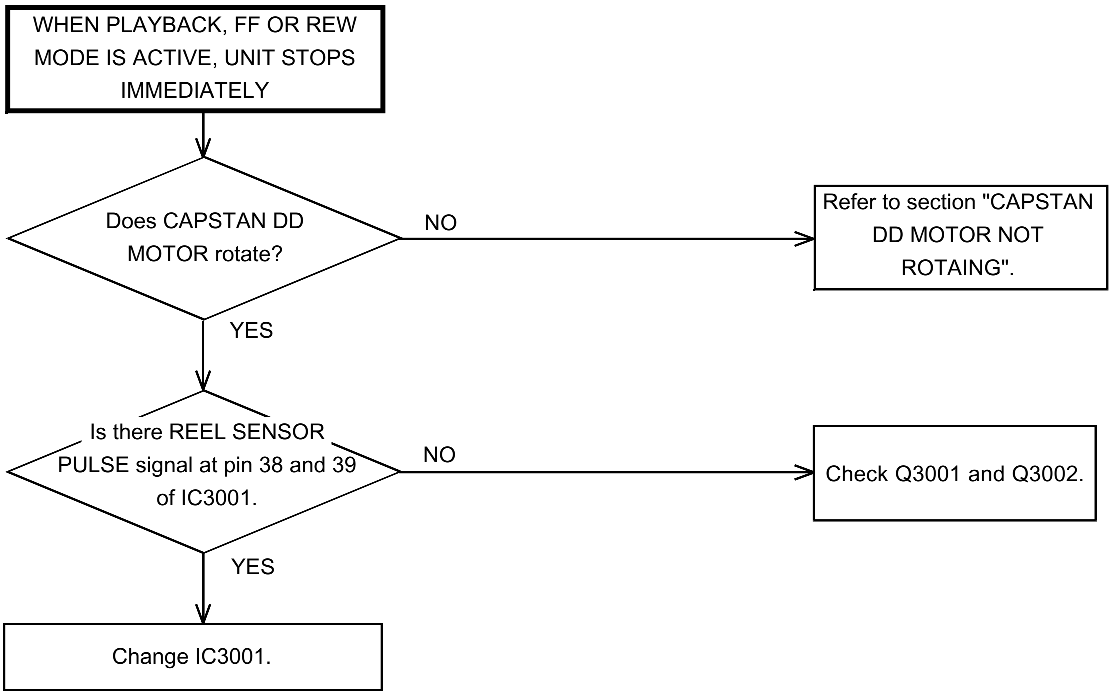
TROUBLESHOOTING GUIDE


AT PLAY, THE PICTURE
JITTERS VERTICAL MINUTELY
Is FG wave of CP3001
at pin 11 5V ?
5V
NO
Change
CYLINDER MOTOR.
YES
Is pin 12 of CP3001 2.6V ?
NO
Change IC3001.
YES
Change CYLINDER MOTOR.

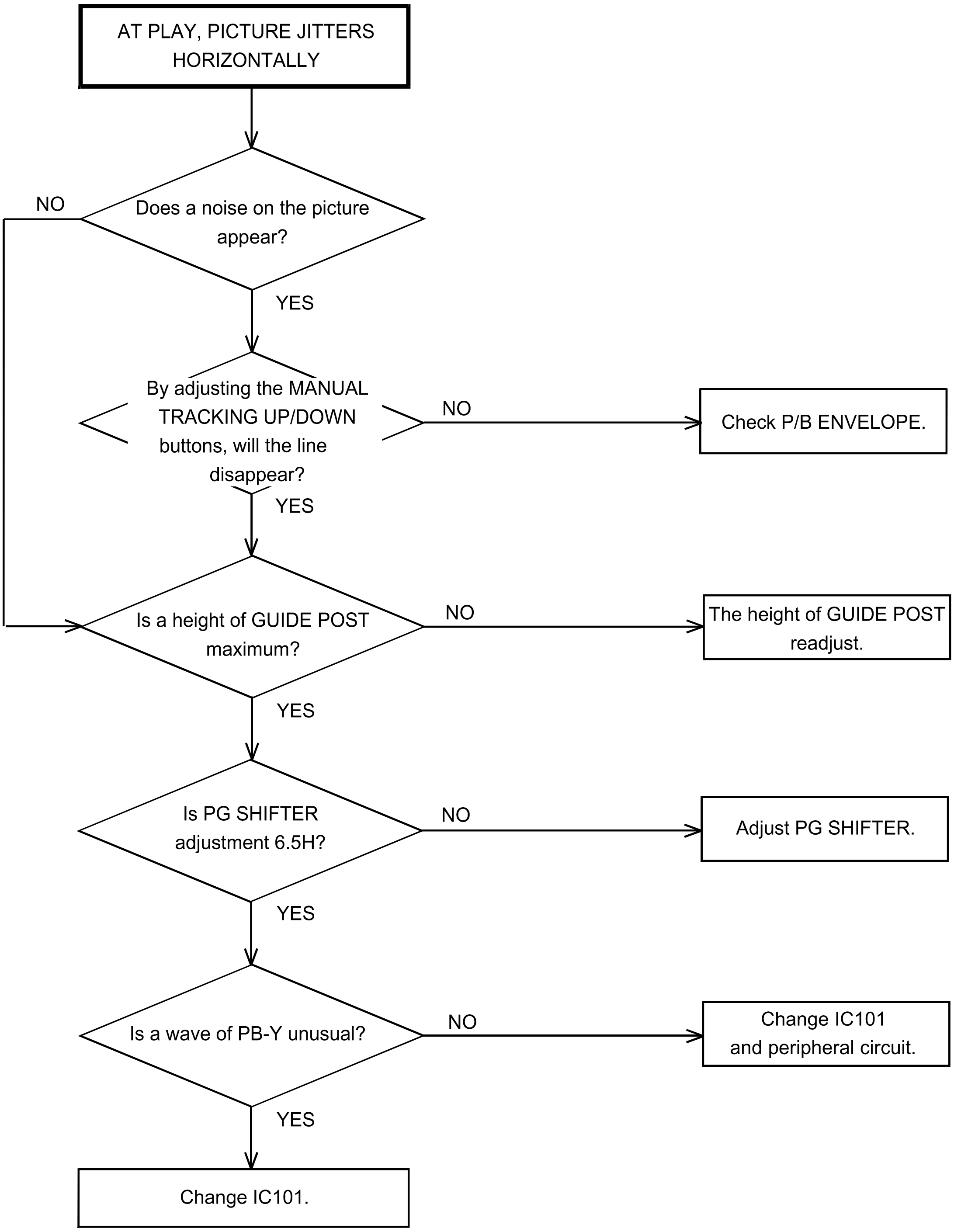
TROUBLESHOOTING GUIDE


AUTO TRACKING DOES NOT OPERATE
In auto tracking, is the voltage at pin 24 of IC3001 more than DC 0.2V?
NO
Does the CTL pulse signal (about 2.5Vp-p) appear at pin 7 of IC3001.
2.5Vp-p
NO
Check CONTROL HEAD.
YES
YES
Change IC3001.

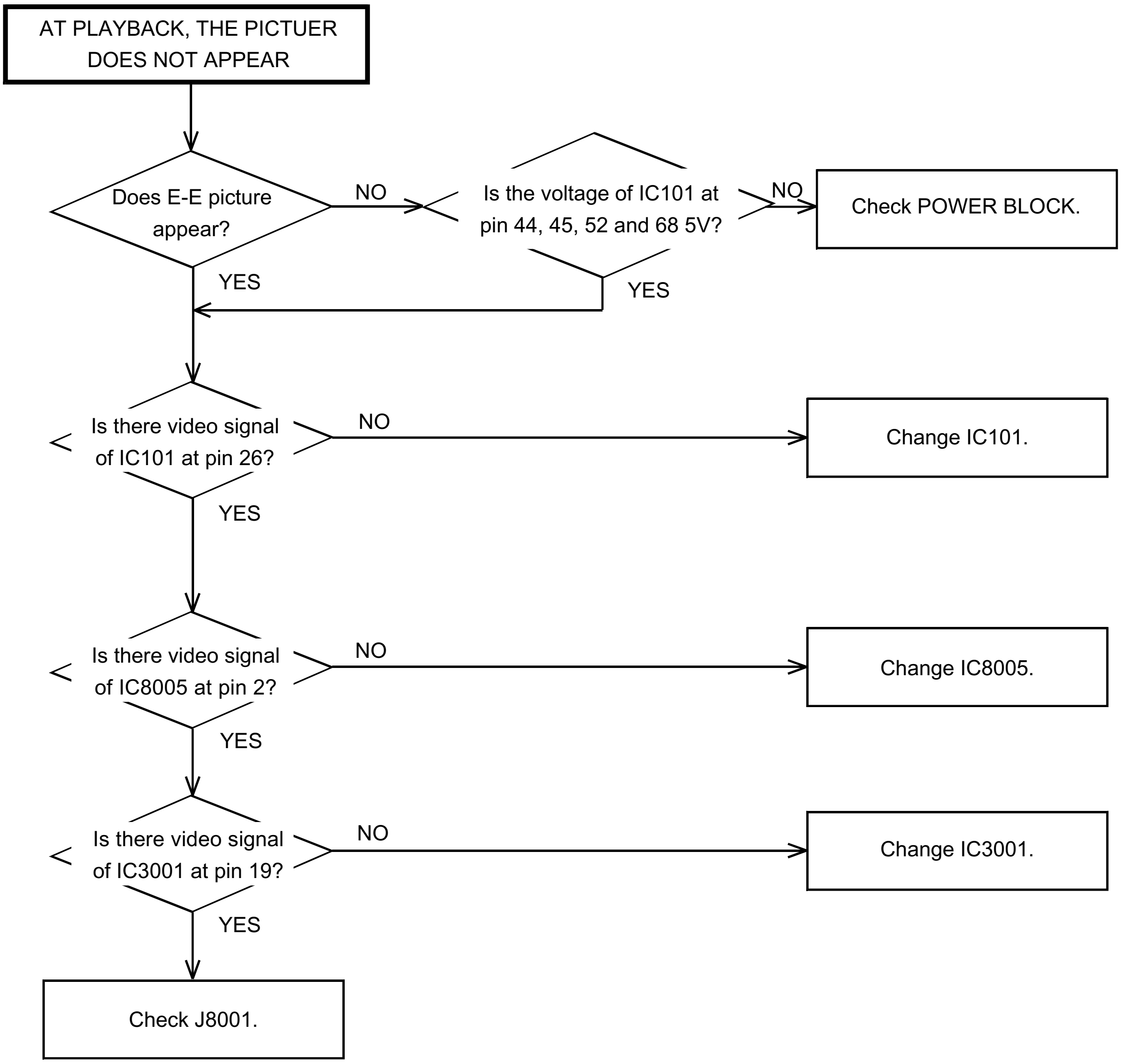
TROUBLESHOOTING GUIDE


WHEN PLAYBACK, FF OR REW MODE IS ACTIVE, UNIT STOPS IMMEDIATELY
Does CAPSTAN DD MOTOR rotate?
NO
Refer to section "CAPSTAN DD MOTOR NOT ROTAING".
YES
Is there REEL SENSOR PULSE signal at pin 38 and 39 of IC3001.
NO
Check Q3001 and Q3002.
YES
Change IC3001.

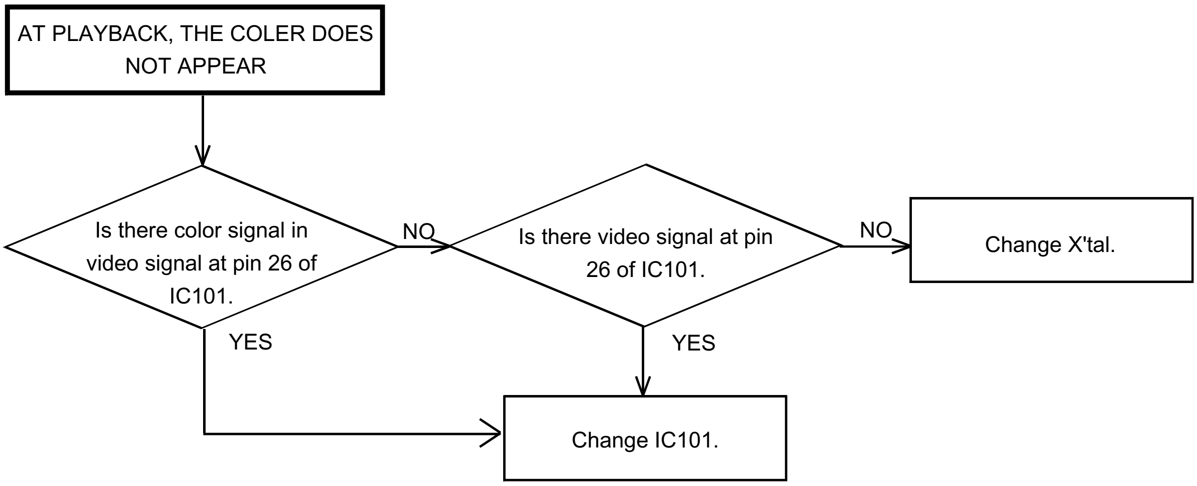
TROUBLESHOOTING GUIDE


AT PLAY, PICTURE JITTERS HORIZONTALLY
Does a noise on the picture appear?
NO
YES
By adjusting the MANUAL TRACKING UP/DOWN buttons, will the line disappear?
NO
Check P/B ENVELOPE.
YES
Is a height of GUIDE POST maximum?
NO
The height of GUIDE POST readjust.
YES
Is PG SHIFTER adjustment 6.5H?
NO
Adjust PG SHIFTER.
YES
Is a wave of PB-Y unusual?
NO
Change IC101 and peripheral circuit.
YES
Change IC101.

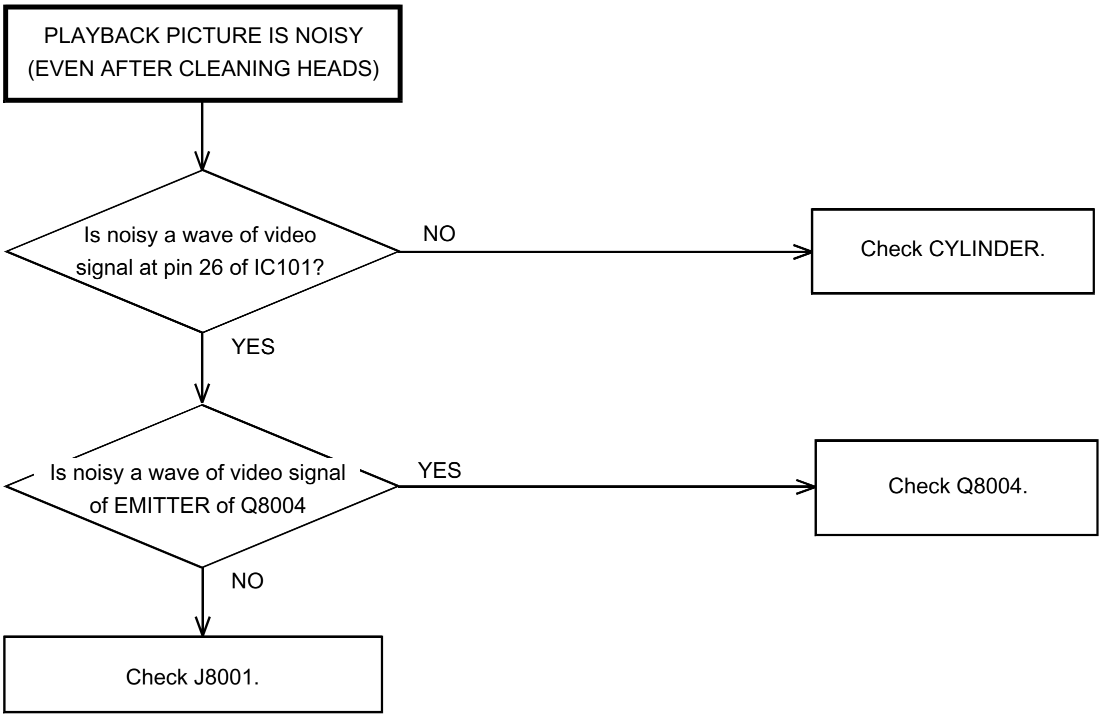
TROUBLESHOOTING GUIDE


AT PLAYBACK, THE PICTUER DOES NOT APPEAR
Does E-E picture appear?
NO
Is the voltage of IC101 at pin 44, 45, 52 and 68 5V?
NO
Check POWER BLOCK.
YES
YES
Is there video signal of IC101 at pin 26?
NO
Change IC101.
YES
Is there video signal of IC8005 at pin 2?
NO
Change IC8005.
YES
Is there video signal of IC3001 at pin 19?
NO
Change IC3001.
YES
Check J8001.

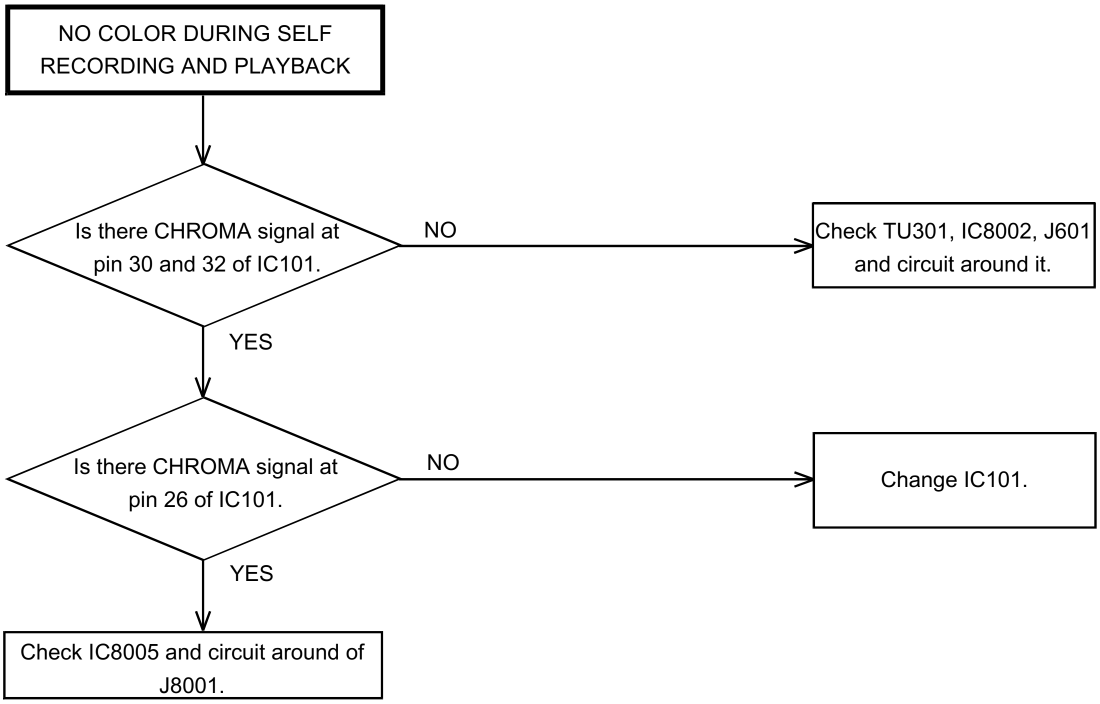
TROUBLESHOOTING GUIDE


AT PLAYBACK, THE COLER DOES NOT APPEAR
Is there color signal in video signal at pin 26 of IC101.
NO
Is there video signal at pin 26 of IC101.
NO
Change X'tal.
YES
YES
Change IC101.

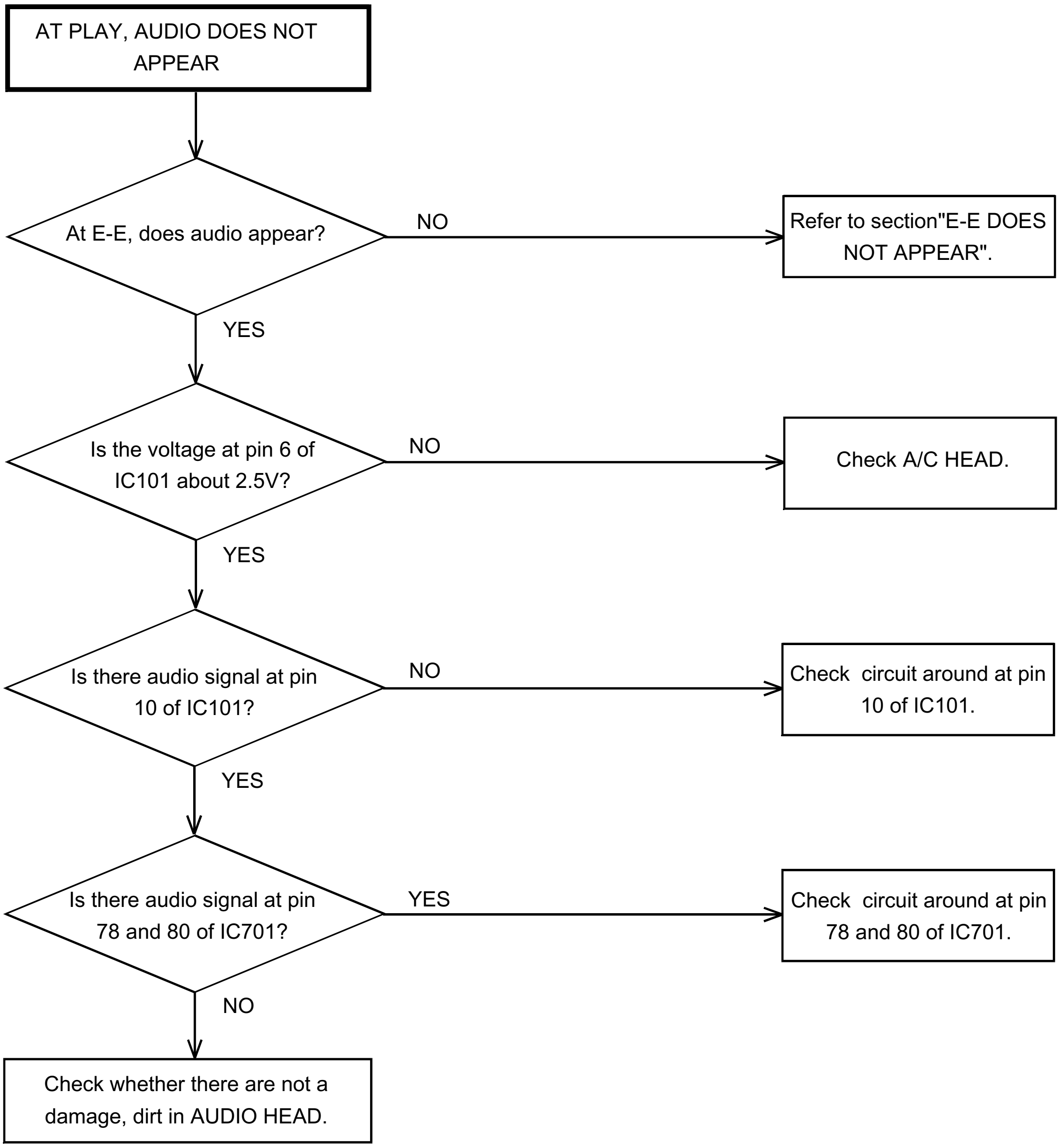
TROUBLESHOOTING GUIDE


PLAYBACK PICTURE IS NOISY
(EVEN AFTER CLEANING HEADS)
Is noisy a wave of video signal at pin 26 of IC101?
NO
Check CYLINDER.
YES
Is noisy a wave of video signal of EMITTER of Q8004
YES
Check Q8004.
NO
Check J8001.

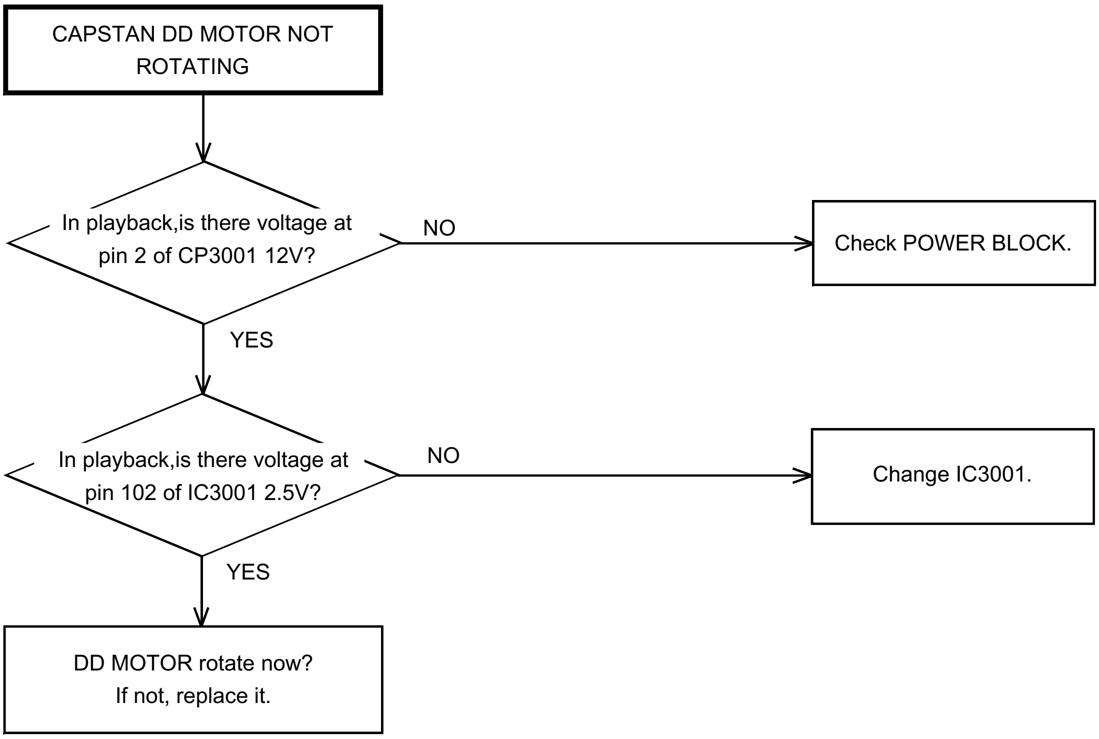
TROUBLESHOOTING GUIDE


NO COLOR DURING SELF RECORDING AND PLAYBACK
Is there CHROMA signal at pin 30 and 32 of IC101.
NO
Check TU301, IC8002, J601 and circuit around it.
YES
Is there CHROMA signal at pin 26 of IC101.
NO
Change IC101.
YES
Check IC8005 and circuit around of J8001.

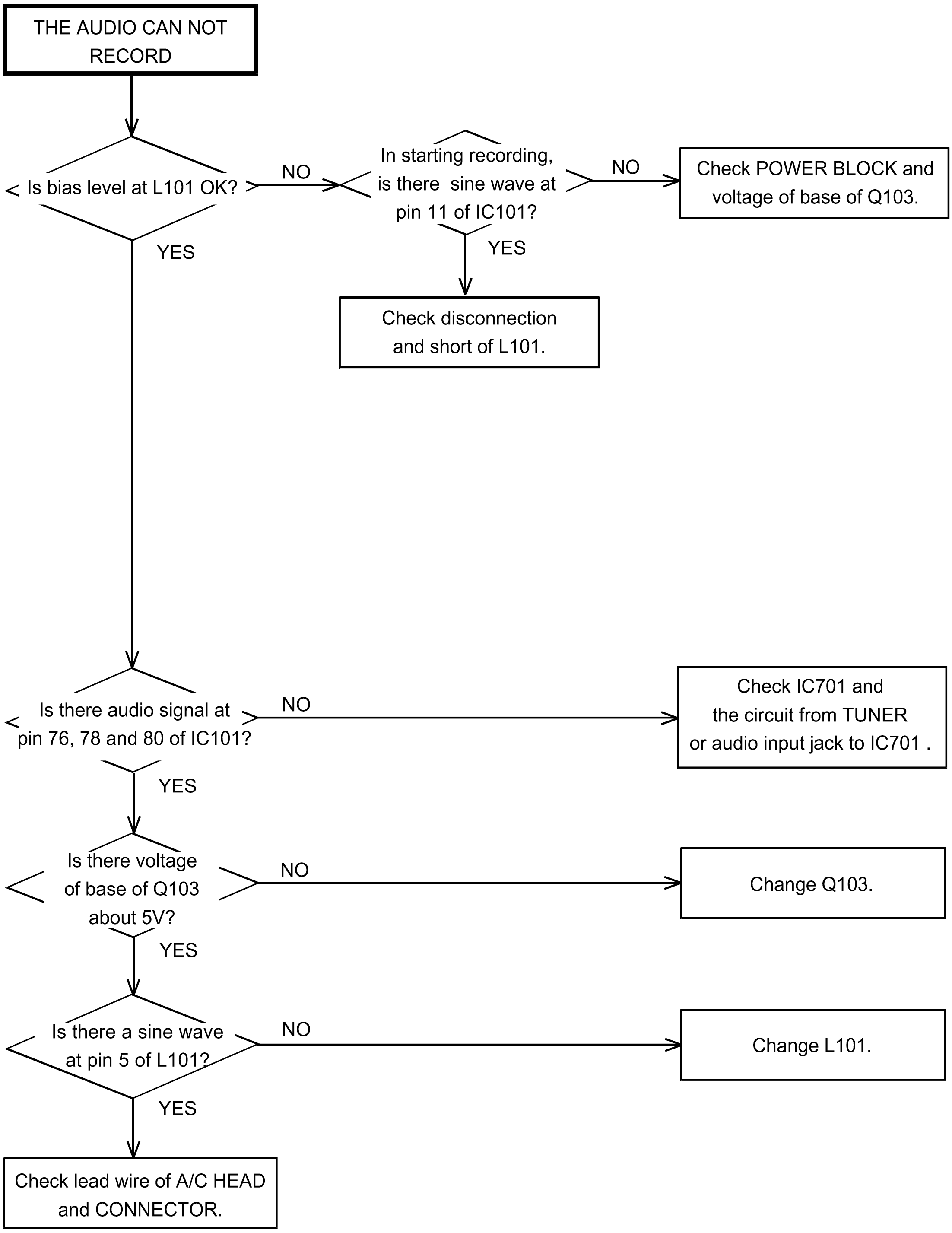
TROUBLESHOOTING GUIDE


AT PLAY, AUDIO DOES NOT APPEAR
At E-E, does audio appear?
NO
Refer to section"E-E DOES NOT APPEAR".
YES
Is the voltage at pin 6 of IC101 about 2.5V?
NO
Check A/C HEAD.
YES
Is there audio signal at pin 10 of IC101?
NO
Check circuit around at pin 10 of IC101.
YES
Is there audio signal at pin 78 and 80 of IC701?
YES
Check circuit around at pin 78 and 80 of IC701.
NO
Check whether there are not a damage, dirt in AUDIO HEAD.

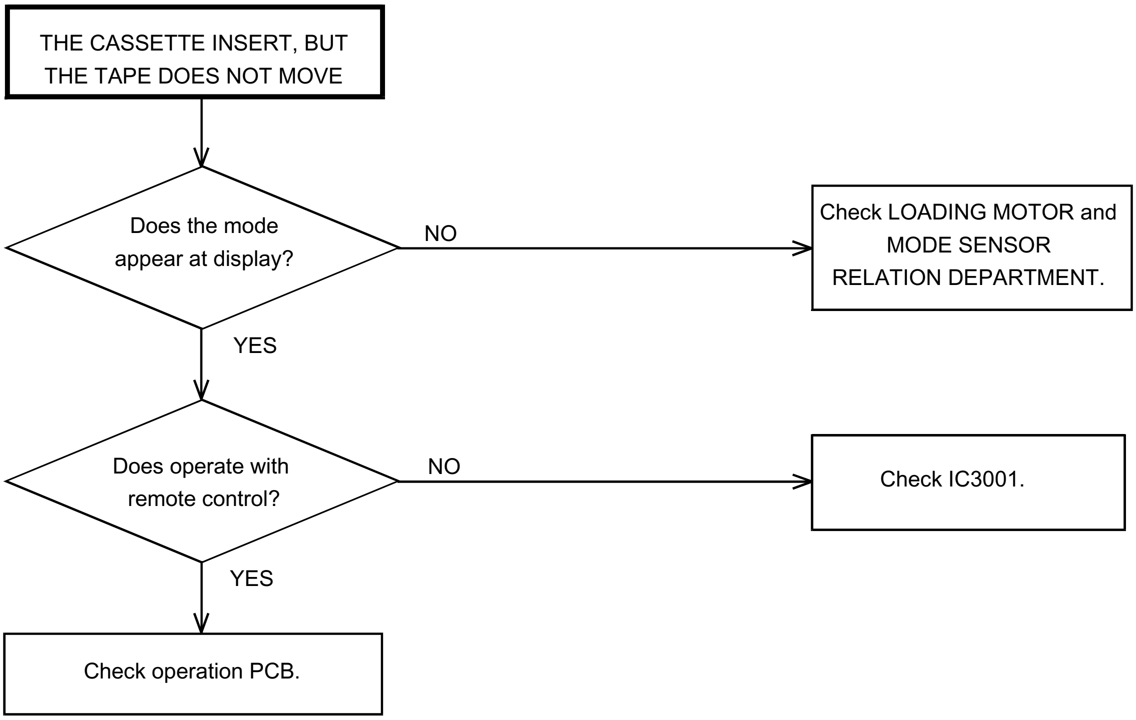
TROUBLESHOOTING GUIDE


CAPSTAN DD MOTOR NOT ROTATING
In playback,is there voltage at pin 2 of CP3001 12V?
NO
Check POWER BLOCK.
YES
In playback,is there voltage at pin 102 of IC3001 2.5V?
NO
Change IC3001.
YES
DD MOTOR rotate now?
If not, replace it.

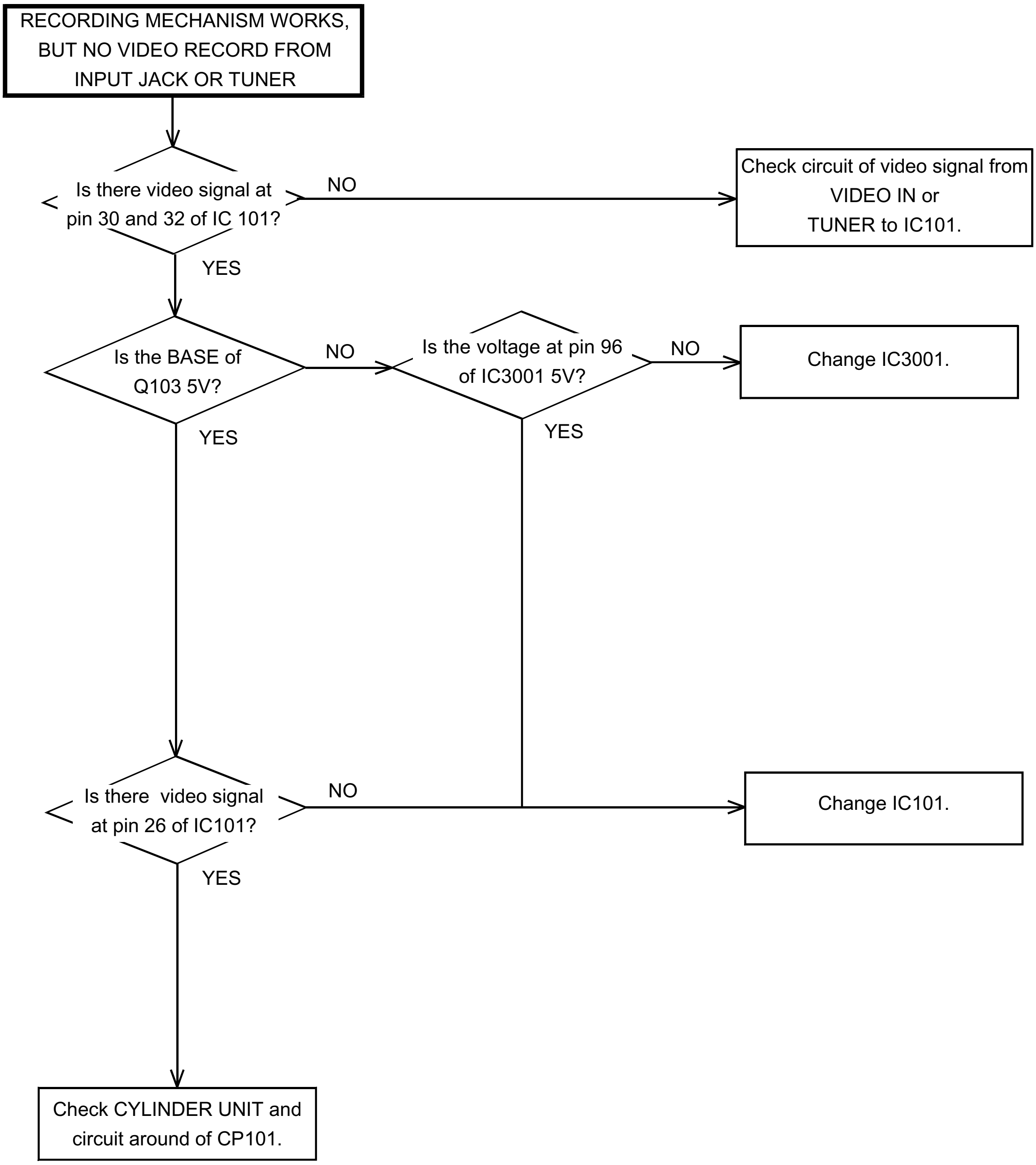
TROUBLESHOOTING GUIDE


THE AUDIO CAN NOT RECORD
Is bias level at L101 OK?
NO
In starting recording, is there sine wave at pin 11 of IC101?
NO
Check POWER BLOCK and voltage of base of Q103.
YES
Check disconnection and short of L101.
YES
Is there audio signal at pin 76, 78 and 80 of IC101?
NO
Check IC701 and the circuit from TUNER or audio input jack to IC701 .
YES
Is there voltage of base of Q103 about 5V?
NO
Change Q103.
YES
Is there a sine wave at pin 5 of L101?
NO
Change L101.
YES
Check lead wire of A/C HEAD and CONNECTOR.

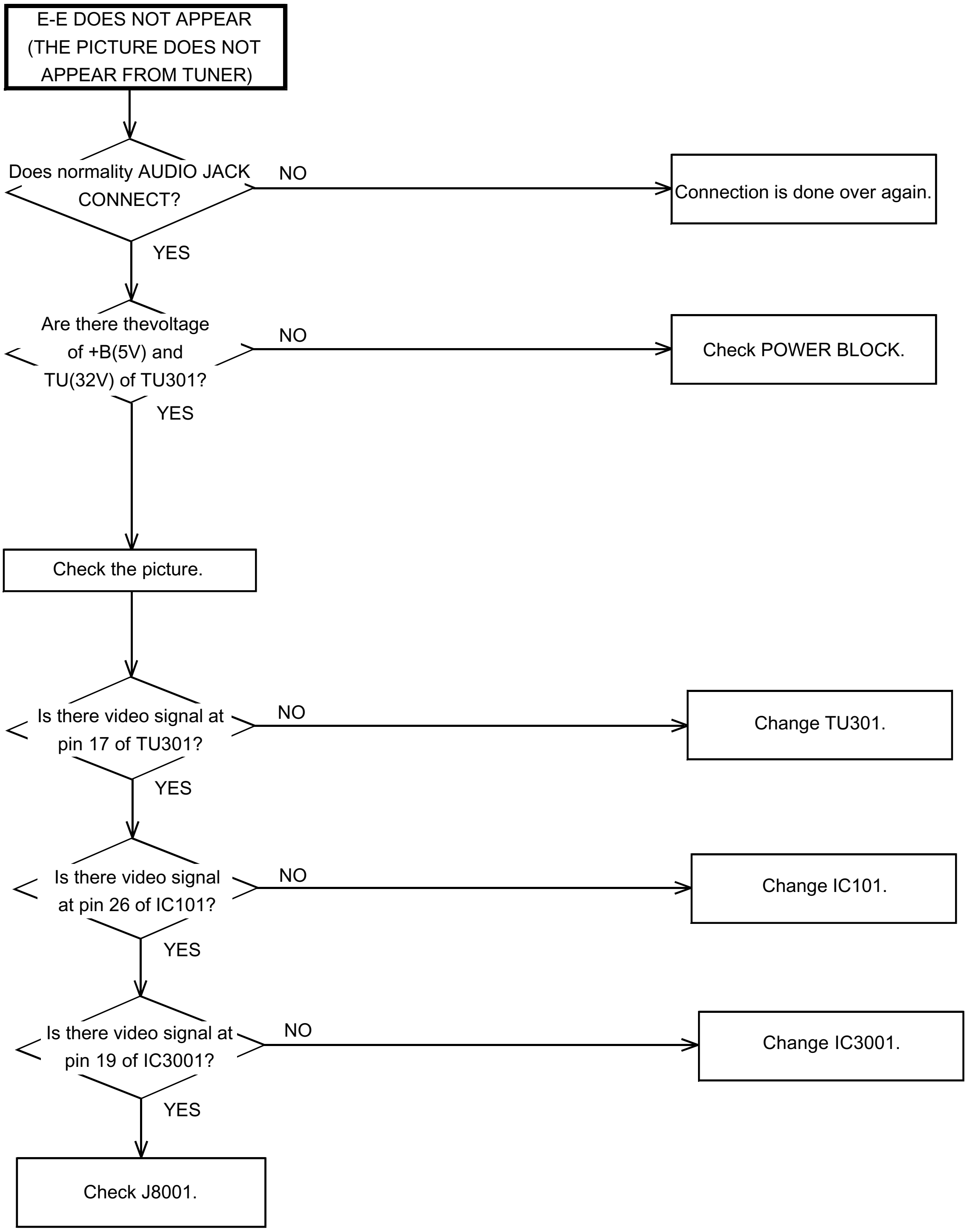
TROUBLESHOOTING GUIDE


THE CASSETTE INSERT, BUT
THE TAPE DOES NOT MOVE
Does the mode
appear at display?
NO
Check LOADING MOTOR and
MODE SENSOR
RELATION DEPARTMENT.
YES
Does operate with
remote control?
NO
Check IC3001.
YES
Check operation PCB.

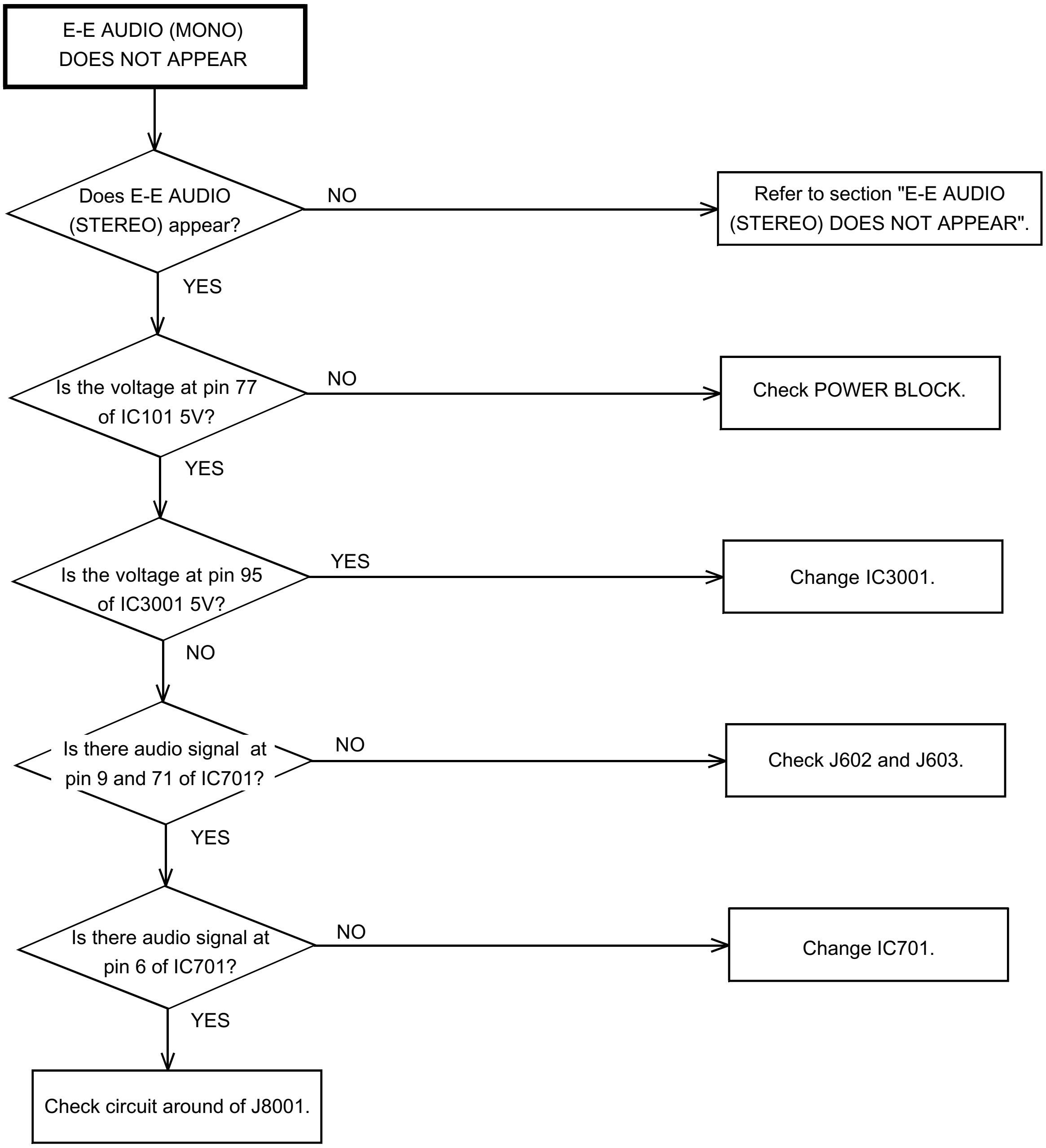
TROUBLESHOOTING GUIDE


RECORDING MECHANISM WORKS, BUT NO VIDEO RECORD FROM INPUT JACK OR TUNER
Is there video signal at pin 30 and 32 of IC 101?
NO
Check circuit of video signal from VIDEO IN or TUNER to IC101.
YES
Is the BASE of Q103 5V?
NO
Is the voltage at pin 96 of IC3001 5V?
NO
Change IC3001.
YES
YES
Is there video signal at pin 26 of IC101?
NO
Change IC101.
YES
Check CYLINDER UNIT and circuit around of CP101.

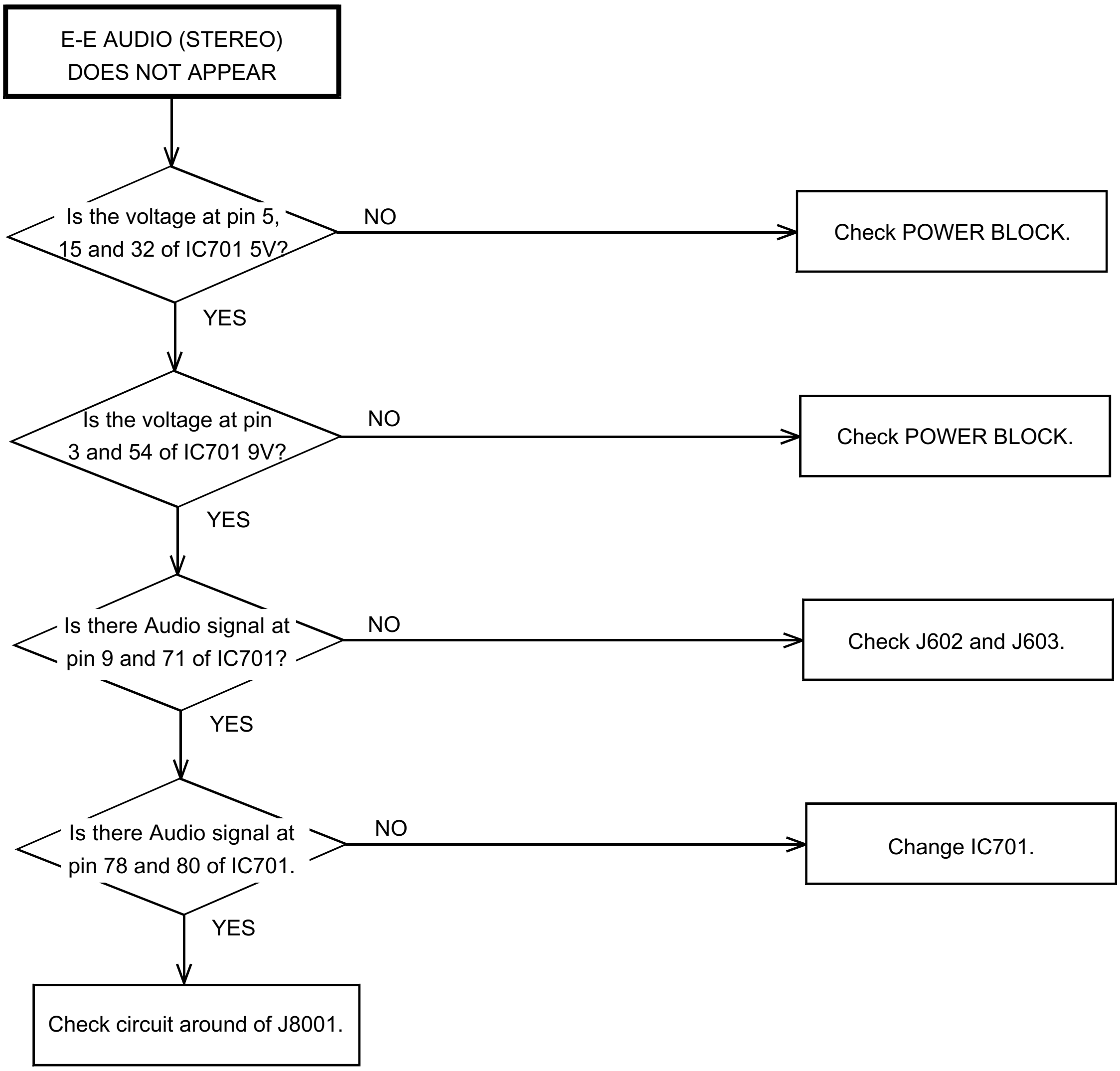
TROUBLESHOOTING GUIDE


E-E DOES NOT APPEAR (THE PICTURE DOES NOT APPEAR FROM TUNER)
Does normality AUDIO JACK CONNECT?
NO
Connection is done over again.
YES
Are there thevoltage of +B(5V) and TU(32V) of TU301?
NO
Check POWER BLOCK.
YES
Check the picture.
Is there video signal at pin 17 of TU301?
NO
Change TU301.
YES
Is there video signal at pin 26 of IC101?
NO
Change IC101.
YES
Is there video signal at pin 19 of IC3001?
NO
Change IC3001.
YES
Check J8001.

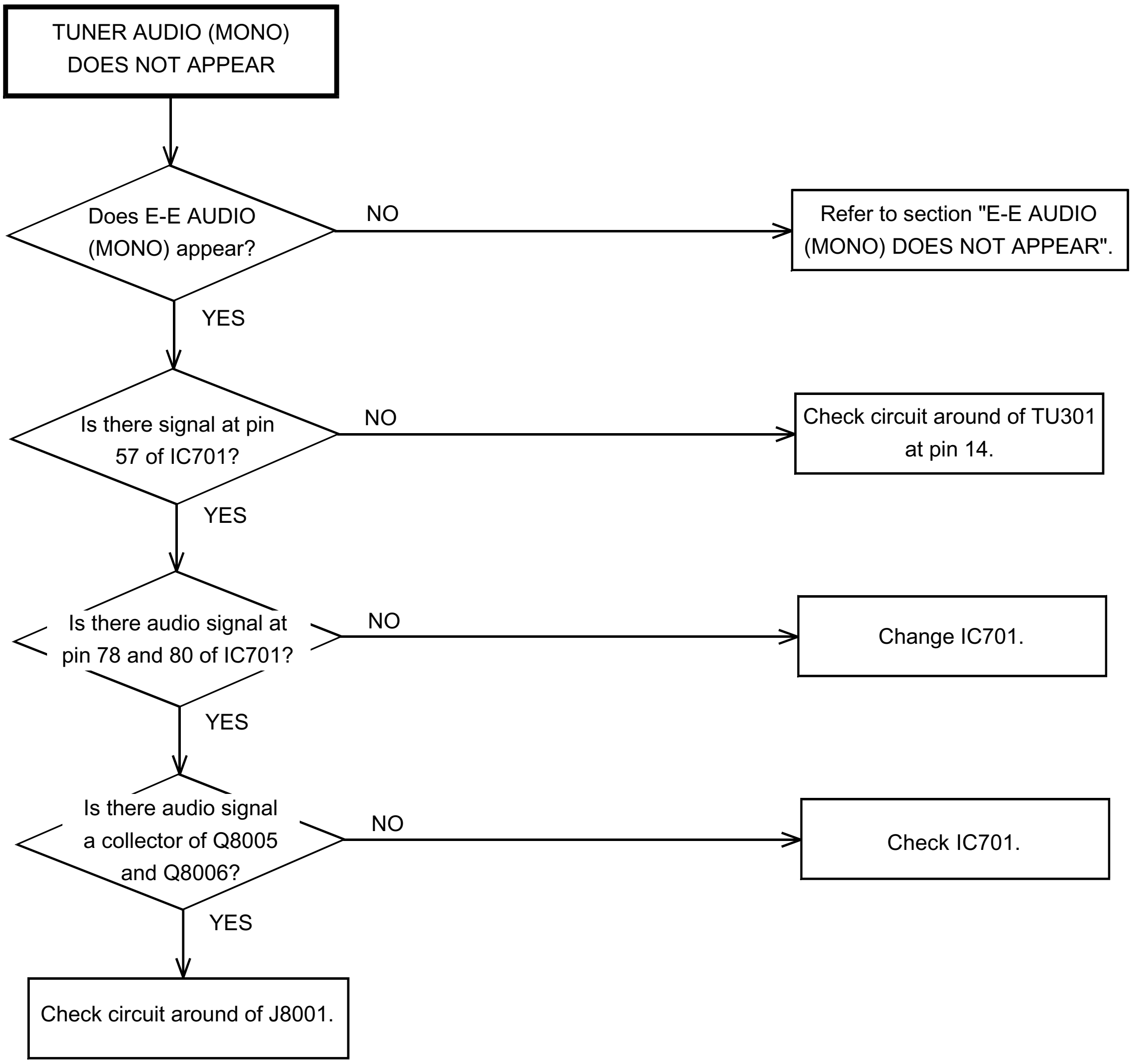
TROUBLESHOOTING GUIDE


E-E AUDIO (MONO) DOES NOT APPEAR
Does E-E AUDIO (STEREO) appear?
NO
Refer to section "E-E AUDIO (STEREO) DOES NOT APPEAR".
YES
Is the voltage at pin 77 of IC101 5V?
NO
Check POWER BLOCK.
YES
Is the voltage at pin 95 of IC3001 5V?
YES
Change IC3001.
NO
Is there audio signal at pin 9 and 71 of IC701?
NO
Check J602 and J603.
YES
Is there audio signal at pin 6 of IC701?
NO
Change IC701.
YES
Check circuit around of J8001.

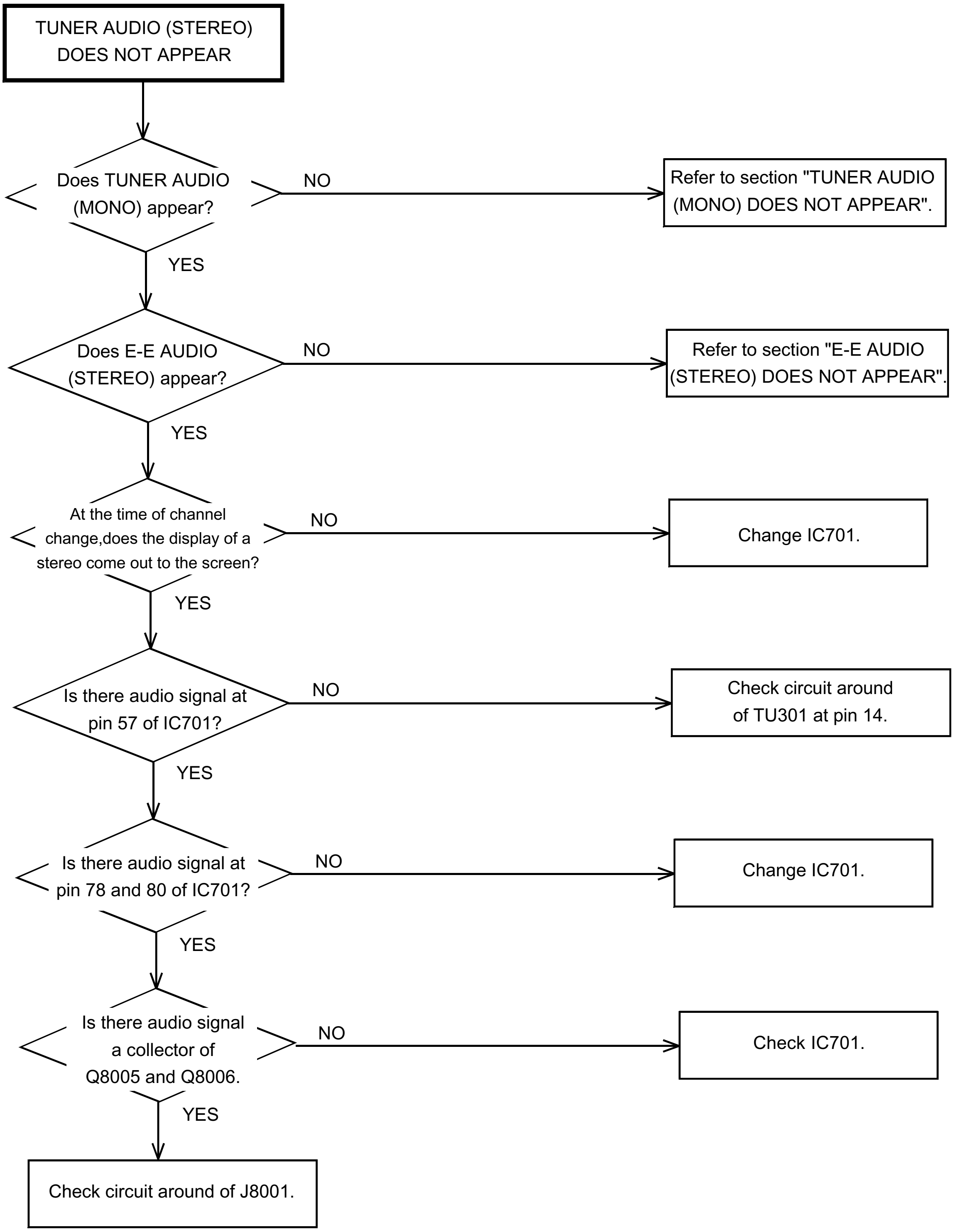
TROUBLESHOOTING GUIDE


E-E AUDIO (STEREO) DOES NOT APPEAR
Is the voltage at pin 5, 15 and 32 of IC701 5V?
NO
Check POWER BLOCK.
YES
Is the voltage at pin 3 and 54 of IC701 9V?
NO
Check POWER BLOCK.
YES
Is there Audio signal at pin 9 and 71 of IC701?
NO
Check J602 and J603.
YES
Is there Audio signal at pin 78 and 80 of IC701.
NO
Change IC701.
YES
Check circuit around of J8001.

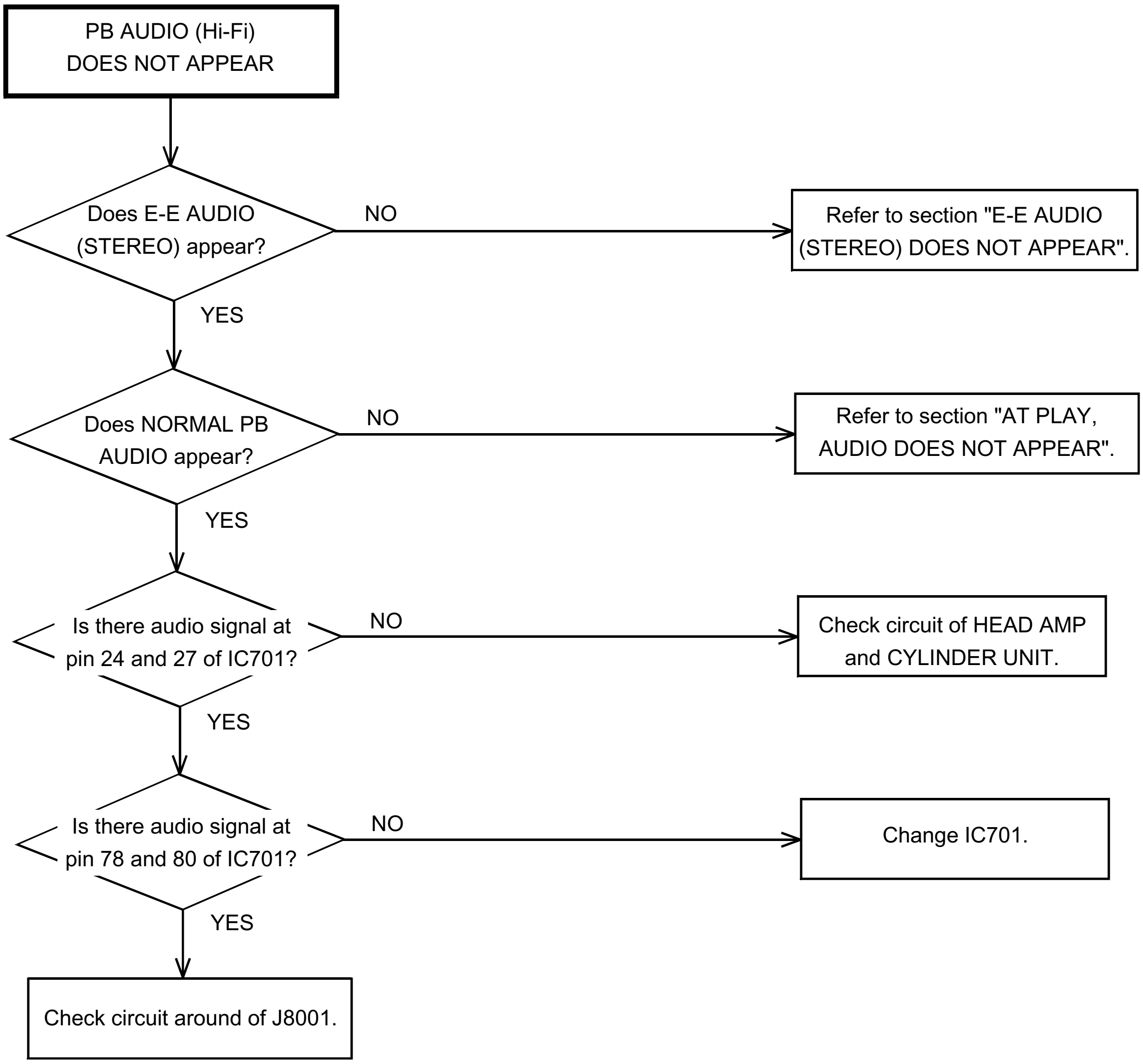
TROUBLESHOOTING GUIDE


TUNER AUDIO (MONO)
DOES NOT APPEAR
Does E-E AUDIO
(MONO) appear?
NO
Refer to section "E-E AUDIO
(MONO) DOES NOT APPEAR".
YES
Is there signal at pin
57 of IC701?
NO
Check circuit around of TU301
at pin 14.
YES
Is there audio signal at
pin 78 and 80 of IC701?
NO
Change IC701.
YES
Is there audio signal
a collector of Q8005
and Q8006?
NO
Check IC701.
YES
Check circuit around of J8001.

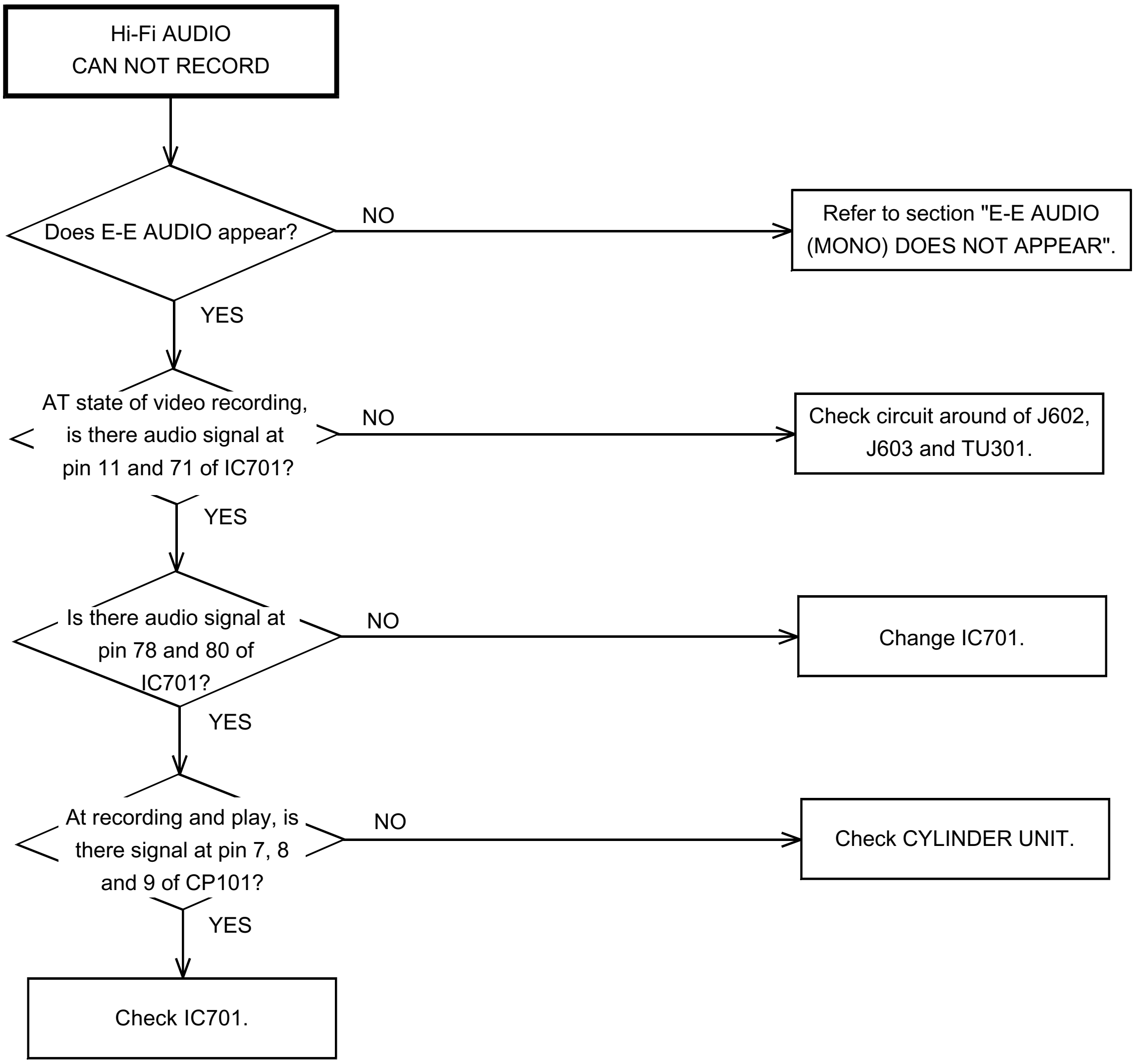
TROUBLESHOOTING GUIDE


TUNER AUDIO (STEREO) DOES NOT APPEAR
Does TUNER AUDIO (MONO) appear?
NO
Refer to section "TUNER AUDIO (MONO) DOES NOT APPEAR".
YES
Does E-E AUDIO (STEREO) appear?
NO
Refer to section "E-E AUDIO (STEREO) DOES NOT APPEAR".
YES
At the time of channel change,does the display of a stereo come out to the screen?
NO
Change IC701.
YES
Is there audio signal at pin 57 of IC701?
NO
Check circuit around of TU301 at pin 14.
YES
Is there audio signal at pin 78 and 80 of IC701?
NO
Change IC701.
YES
Is there audio signal a collector of Q8005 and Q8006.
NO
Check IC701.
YES
Check circuit around of J8001.

TROUBLESHOOTING GUIDE

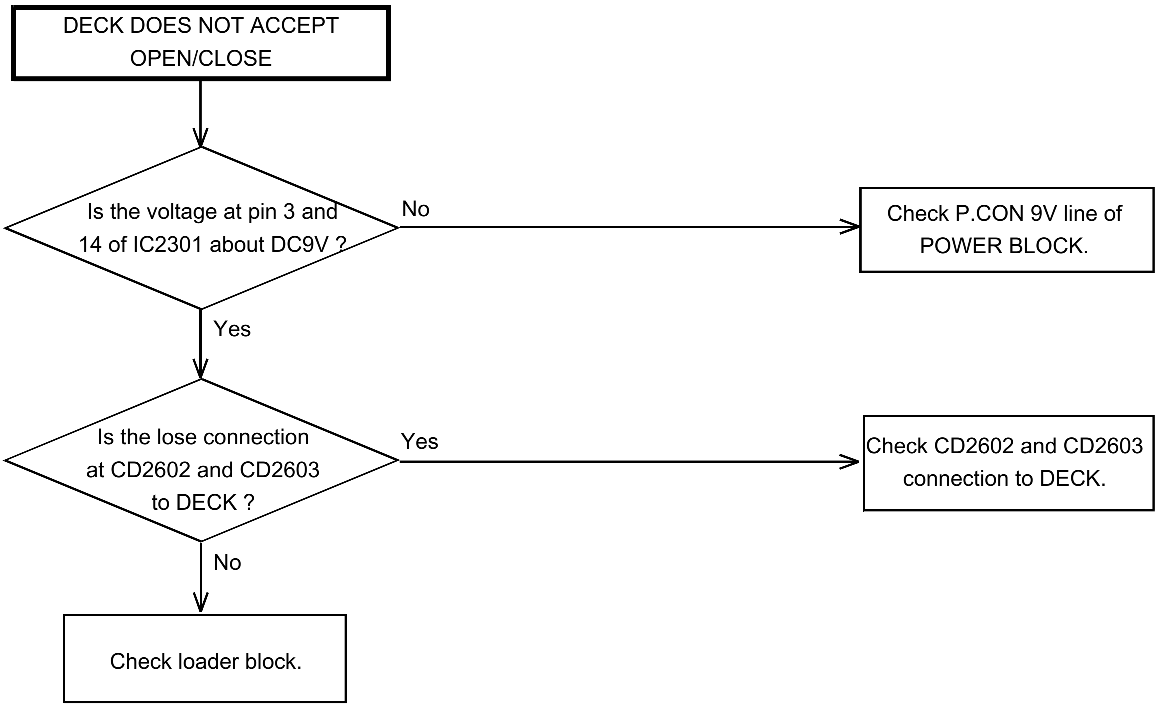

PB AUDIO (Hi-Fi)
DOES NOT APPEAR
Does E-E AUDIO (STEREO) appear?
NO
Refer to section "E-E AUDIO (STEREO) DOES NOT APPEAR".
YES
Does NORMAL PB AUDIO appear?
NO
Refer to section "AT PLAY, AUDIO DOES NOT APPEAR".
YES
Is there audio signal at pin 24 and 27 of IC701?
NO
Check circuit of HEAD AMP and CYLINDER UNIT.
YES
Is there audio signal at pin 78 and 80 of IC701?
NO
Change IC701.
YES
Check circuit around of J8001.

TROUBLESHOOTING GUIDE

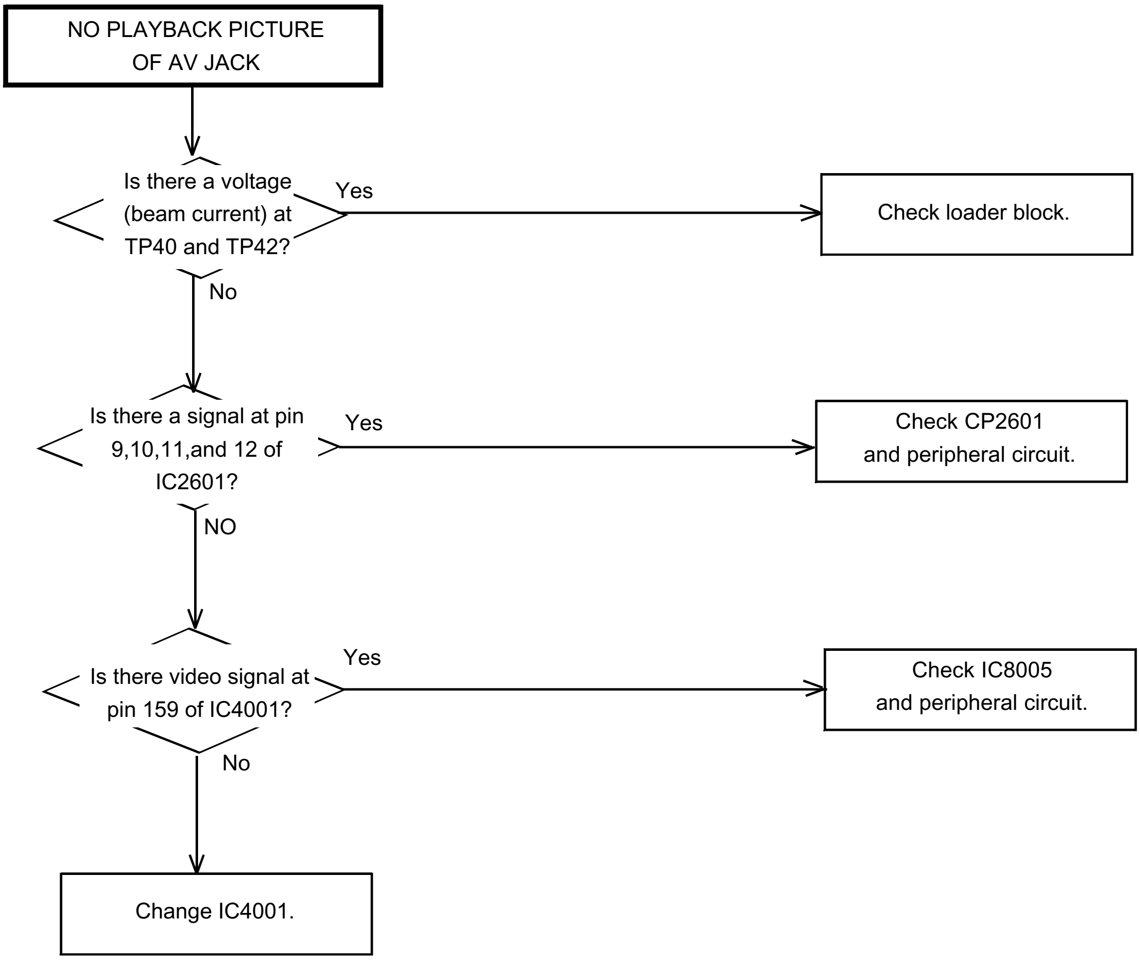

Hi-Fi AUDIO
CAN NOT RECORD
Does E-E AUDIO appear?
NO
Refer to section "E-E AUDIO (MONO) DOES NOT APPEAR".
YES
AT state of video recording, is there audio signal at pin 11 and 71 of IC701?
NO
Check circuit around of J602, J603 and TU301.
YES
Is there audio signal at pin 78 and 80 of IC701?
NO
Change IC701.
YES
At recording and play, is there signal at pin 7, 8 and 9 of CP101?
NO
Check CYLINDER UNIT.
YES
Check IC701.

TROUBLESHOOTING GUIDE

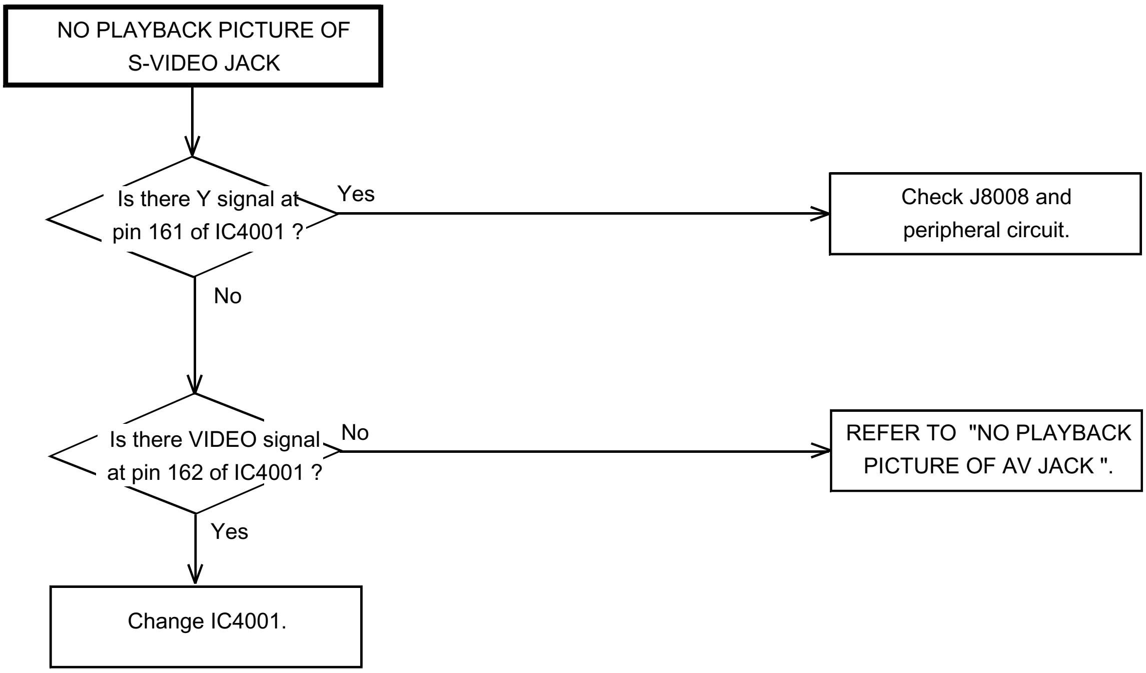
(DVD SECTION)


DECK DOES NOT ACCEPT OPEN/CLOSE
Is the voltage at pin 3 and 14 of IC2301 about DC9V ?
No
Check P.CON 9V line of POWER BLOCK.
Yes
Is the lose connection at CD2602 and CD2603 to DECK ?
Yes
Check CD2602 and CD2603 connection to DECK.
No
Check loader block.

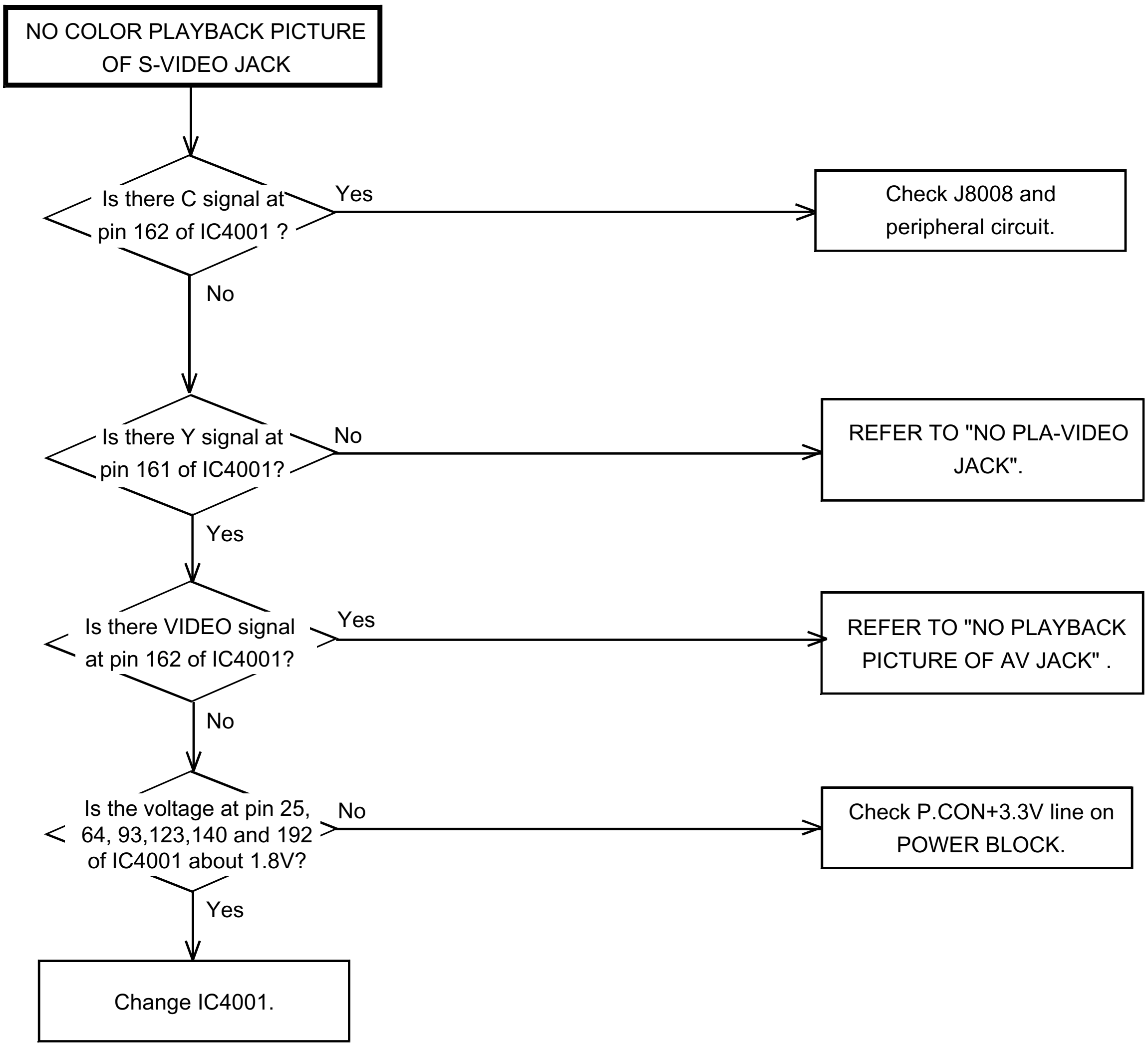
TROUBLESHOOTING GUIDE


NO PLAYBACK PICTURE OF AV JACK
Is there a voltage (beam current) at TP40 and TP42?
Yes
Check loader block.
No
Is there a signal at pin 9,10,11,and 12 of IC2601?
Yes
Check CP2601 and peripheral circuit.
NO
Is there video signal at pin 159 of IC4001?
Yes
Check IC8005 and peripheral circuit.
No
Change IC4001.

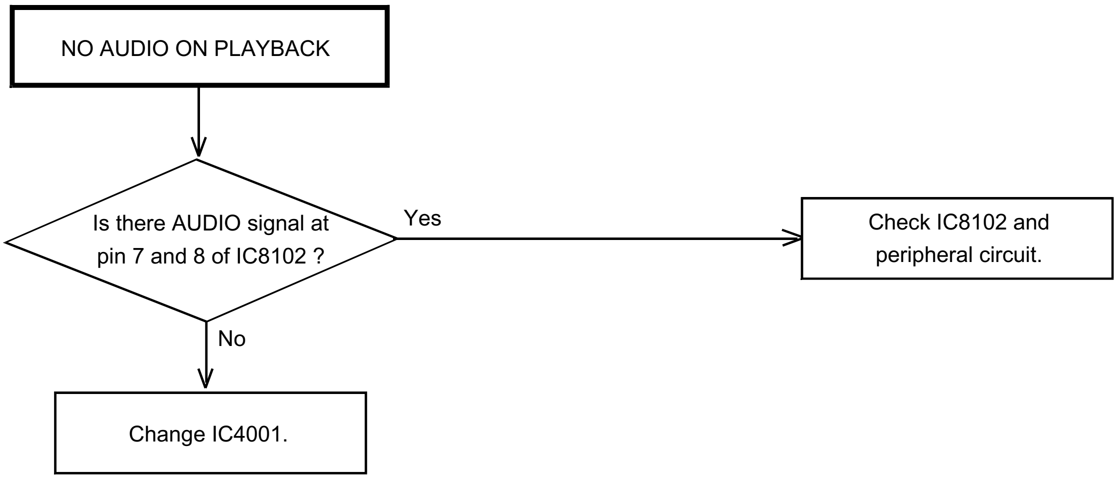
TROUBLESHOOTING GUIDE


NO PLAYBACK PICTURE OF S-VIDEO JACK
Is there Y signal at pin 161 of IC4001 ?
Yes
Check J8008 and peripheral circuit.
No
Is there VIDEO signal at pin 162 of IC4001 ?
No
REFER TO "NO PLAYBACK PICTURE OF AV JACK ".
Yes
Change IC4001.

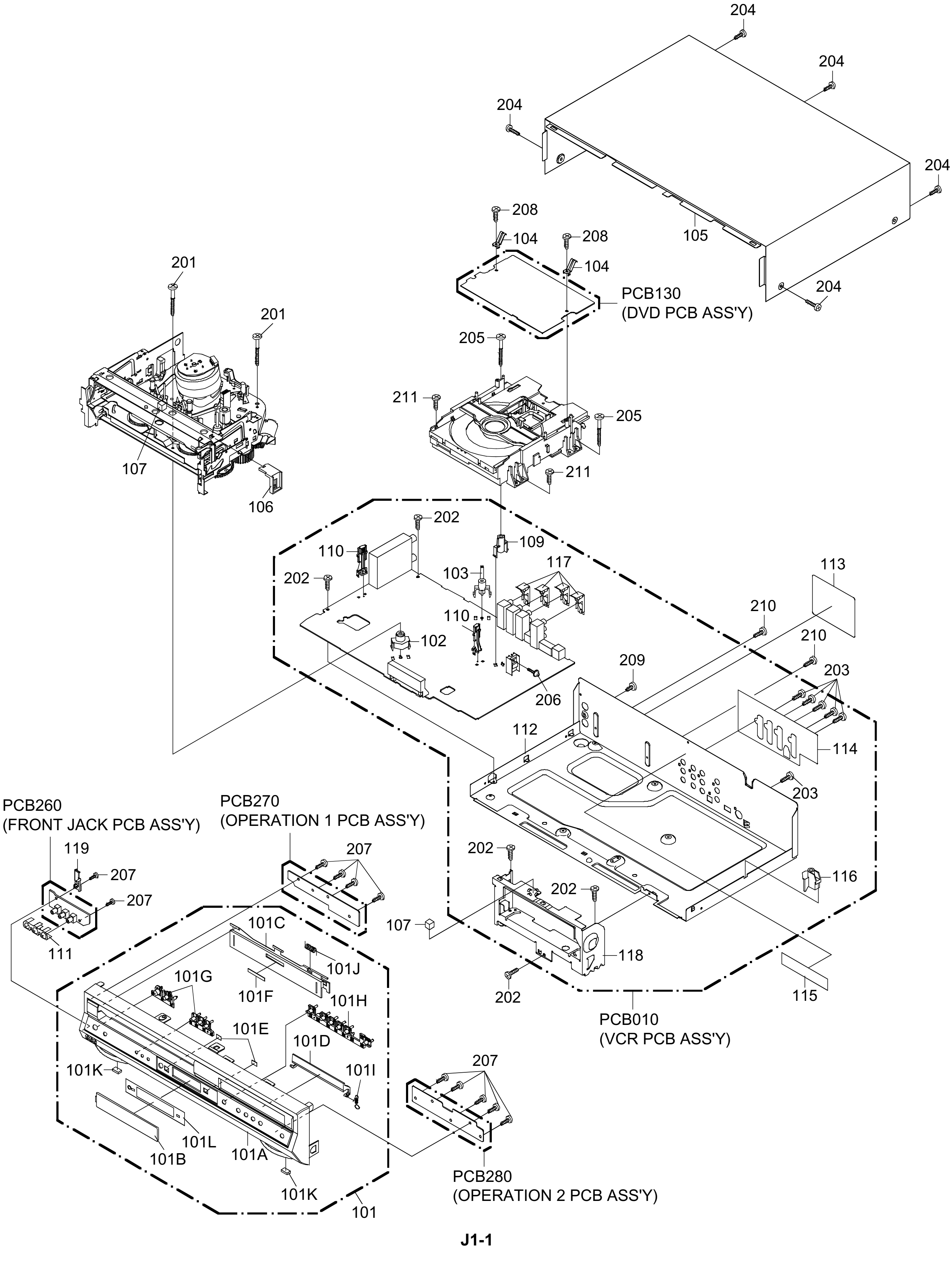
TROUBLESHOOTING GUIDE


NO COLOR PLAYBACK PICTURE OF S-VIDEO JACK
Is there C signal at pin 162 of IC4001 ?
Yes
Check J8008 and peripheral circuit.
No
Is there Y signal at pin 161 of IC4001?
No
REFER TO "NO PLA-VIDEO JACK".
Yes
Is there VIDEO signal at pin 162 of IC4001?
Yes
REFER TO "NO PLAYBACK PICTURE OF AV JACK" .
No
Is the voltage at pin 25, 64, 93,123,140 and 192 of IC4001 about 1.8V?
No
Check P.CON+3.3V line on POWER BLOCK.
Yes
Change IC4001.

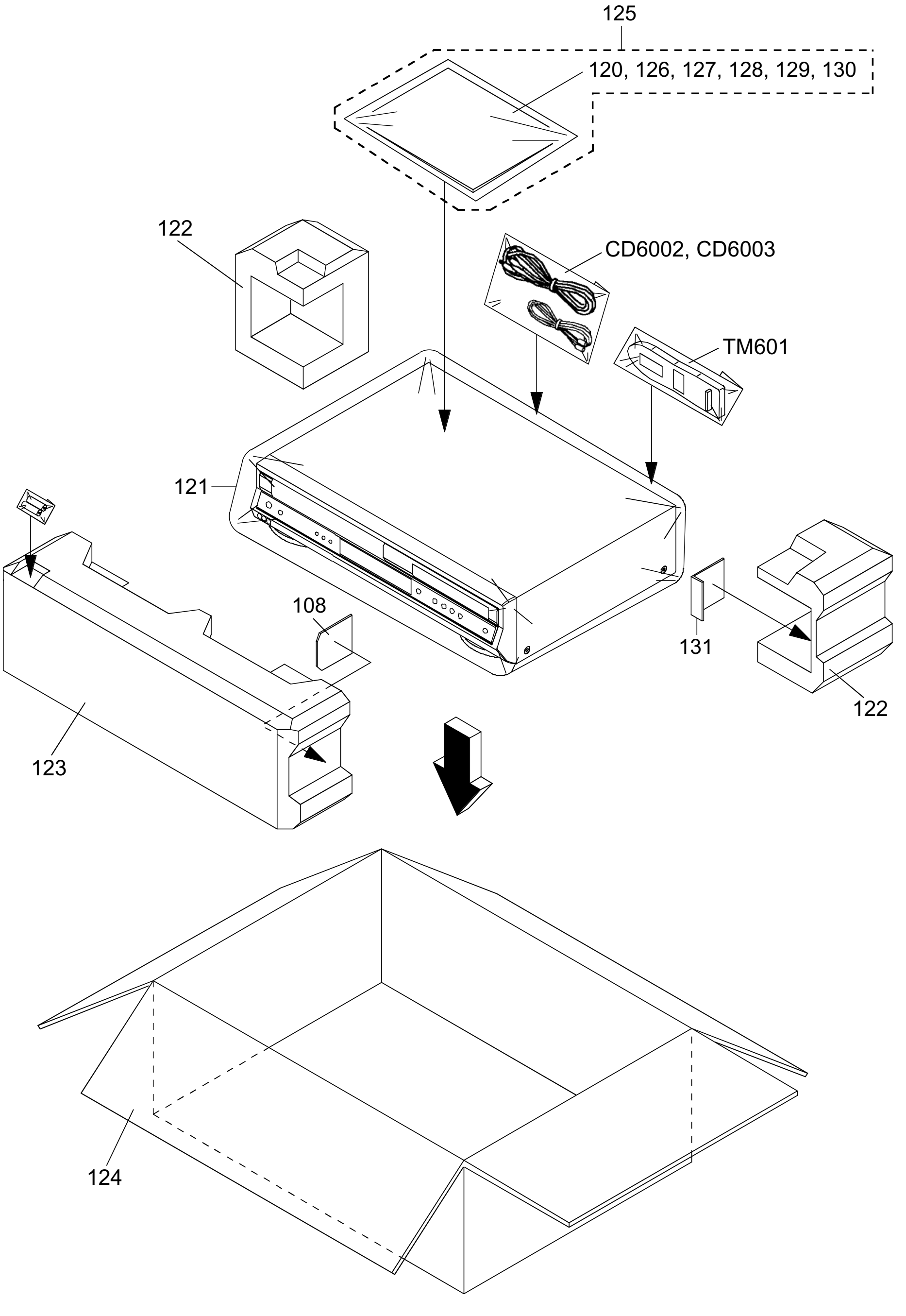
TROUBLESHOOTING GUIDE


NO AUDIO ON PLAYBACK
Is there AUDIO signal at pin 7 and 8 of IC8102 ?
Yes
Check IC8102 and peripheral circuit.
No
Change IC4001.

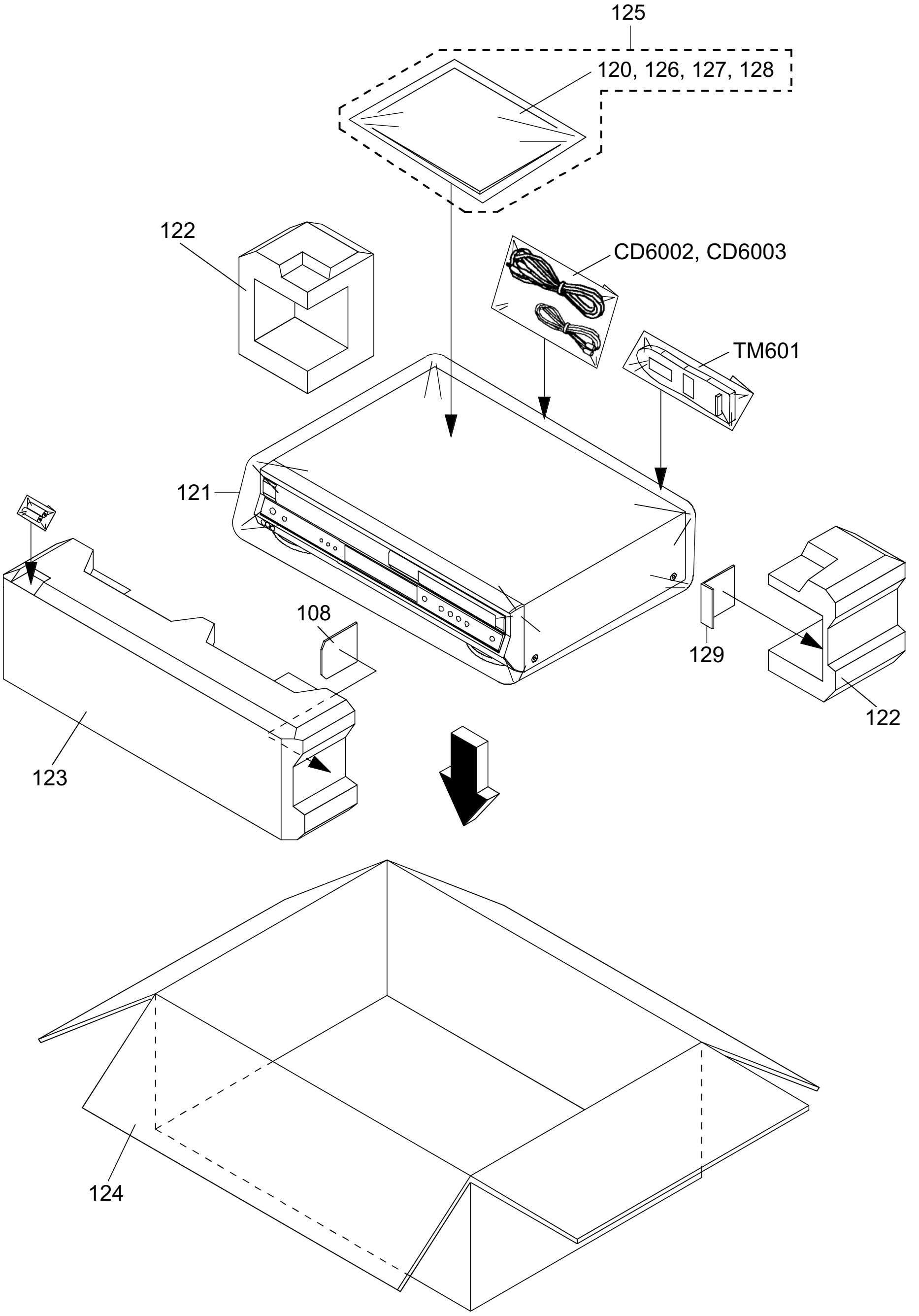
MECHANICAL EXPLODED VIEW


204
204
204
204
204
105
208
104
208
104
PCB130
(DVD PCB ASS'Y)
201
201
205
211
205
211
107
106
202
110
109
117
103
202
110
102
113
210
210
206
209
203
112
114
203
PCB260
(FRONT JACK PCB ASS'Y)
PCB270
(OPERATION 1 PCB ASS'Y)
119
207
207
207
202
116
202
107
118
111
101C
101J
101G
101F
101H
202
115
101E
PCB010
(VCR PCB ASS'Y)
101D
207
101K
101I
101L
101B
101A
PCB280
(OPERATION 2 PCB ASS'Y)
101K
101

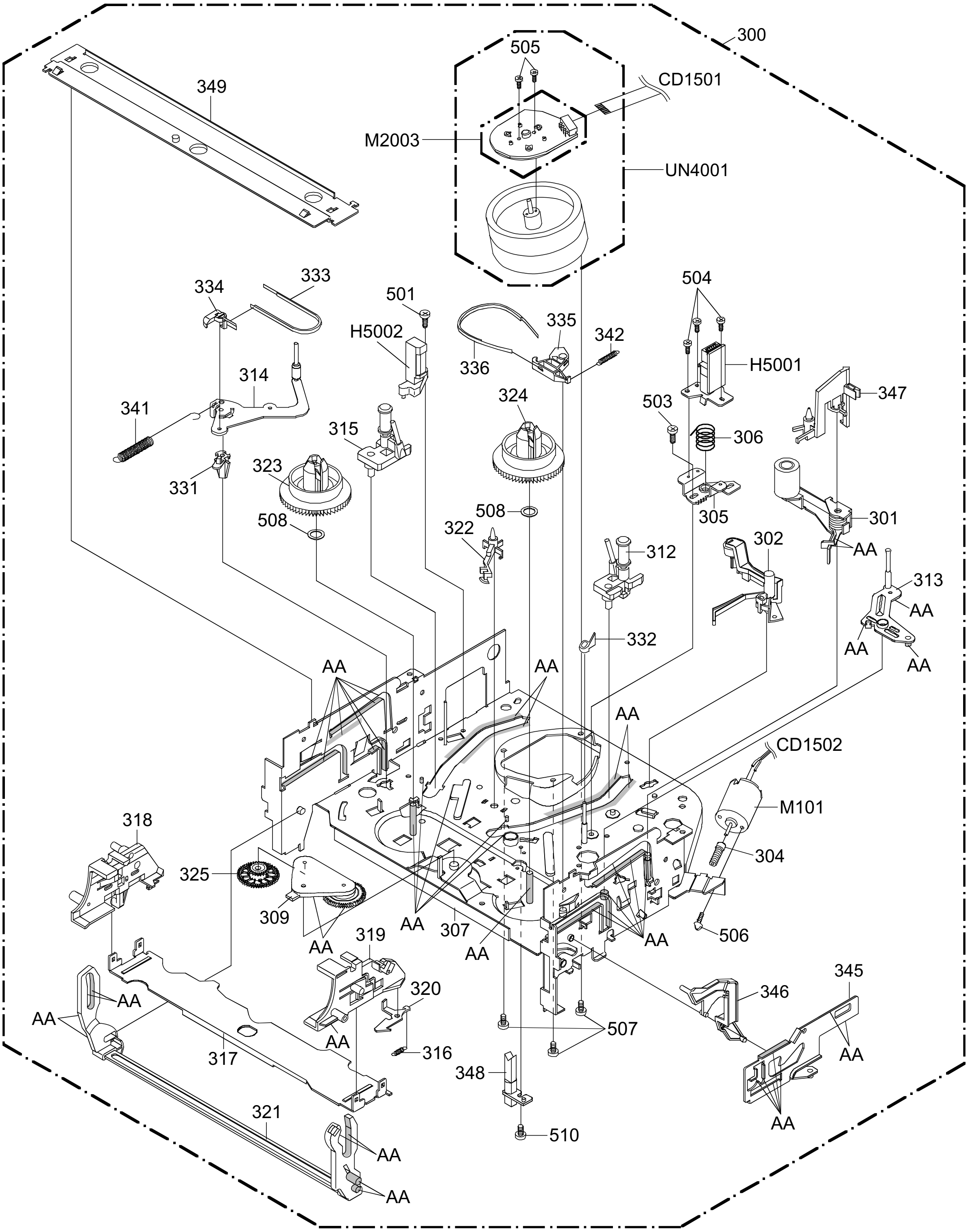
MECHANICAL EXPLODED VIEW (SD-V392SUA) (PACKING DIAGRAM)


125
120, 126, 127, 128, 129, 130
122
CD6002, CD6003
TM601
121
108
131
122
123
124

MECHANICAL EXPLODED VIEW (SD-V392SCA)
(PACKING DIAGRAM)


125
120, 126, 127, 128
122
CD6002, CD6003
TM601
121
108
129
122
123
124

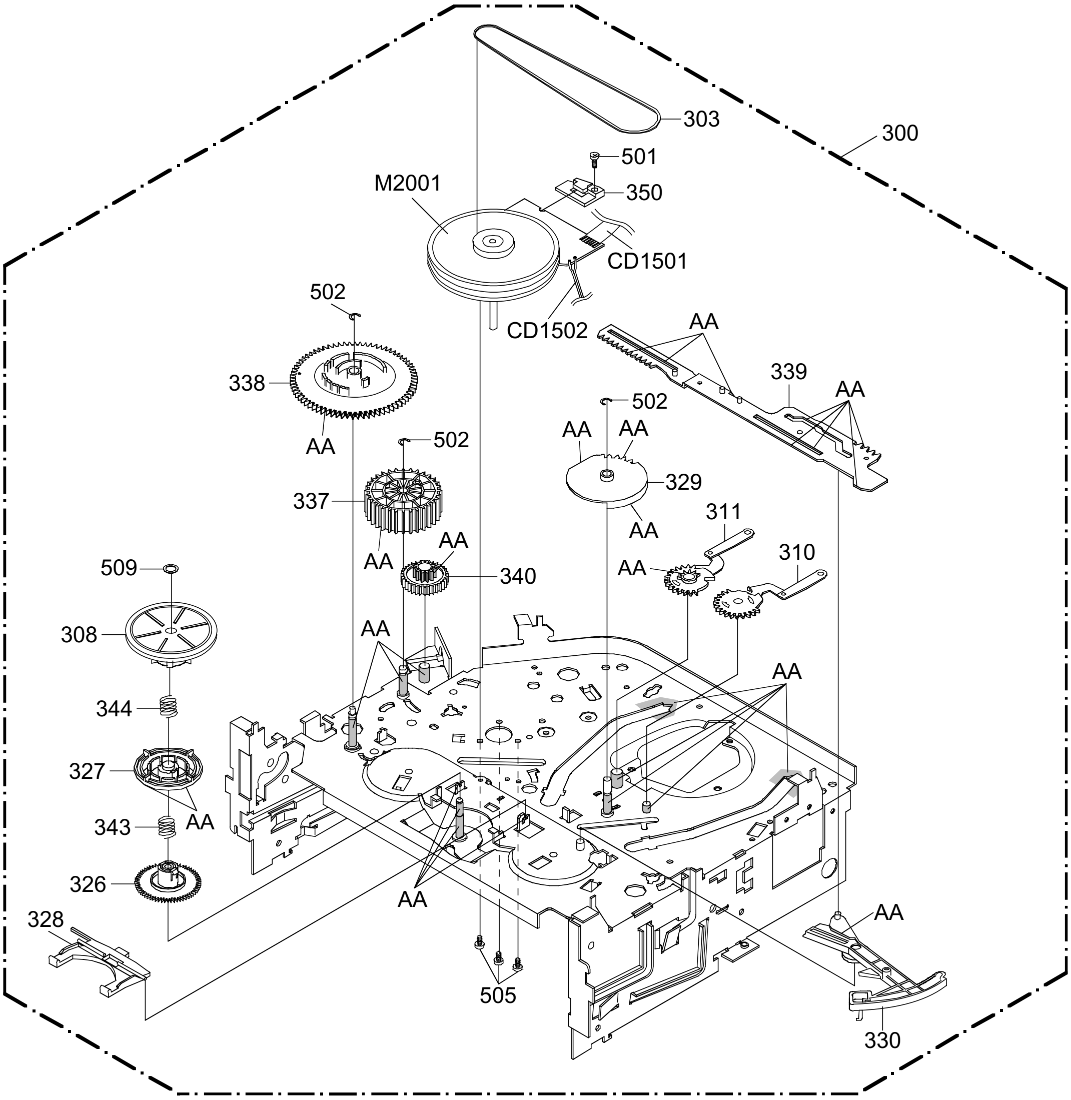
CHASSIS EXPLODED VIEW (TOP VIEW)


300
505
CD1501
349
M2003
UN4001
334
333
501
504
H5002
335
342
H5001
336
314
324
347
341
503
306
315
323
331
508
508
305
301
322
312
302
AA
313
332
AA
AA
AA
AA
AA
AA
CD1502
M101
318
304
325
309
AA
307
AA
319
AA
506
AA
345
346
320
AA
AA
507
316
AA
317
348
AA
321
510
AA
AA
AA

CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section.
Check if the correct grease is applied for each position.

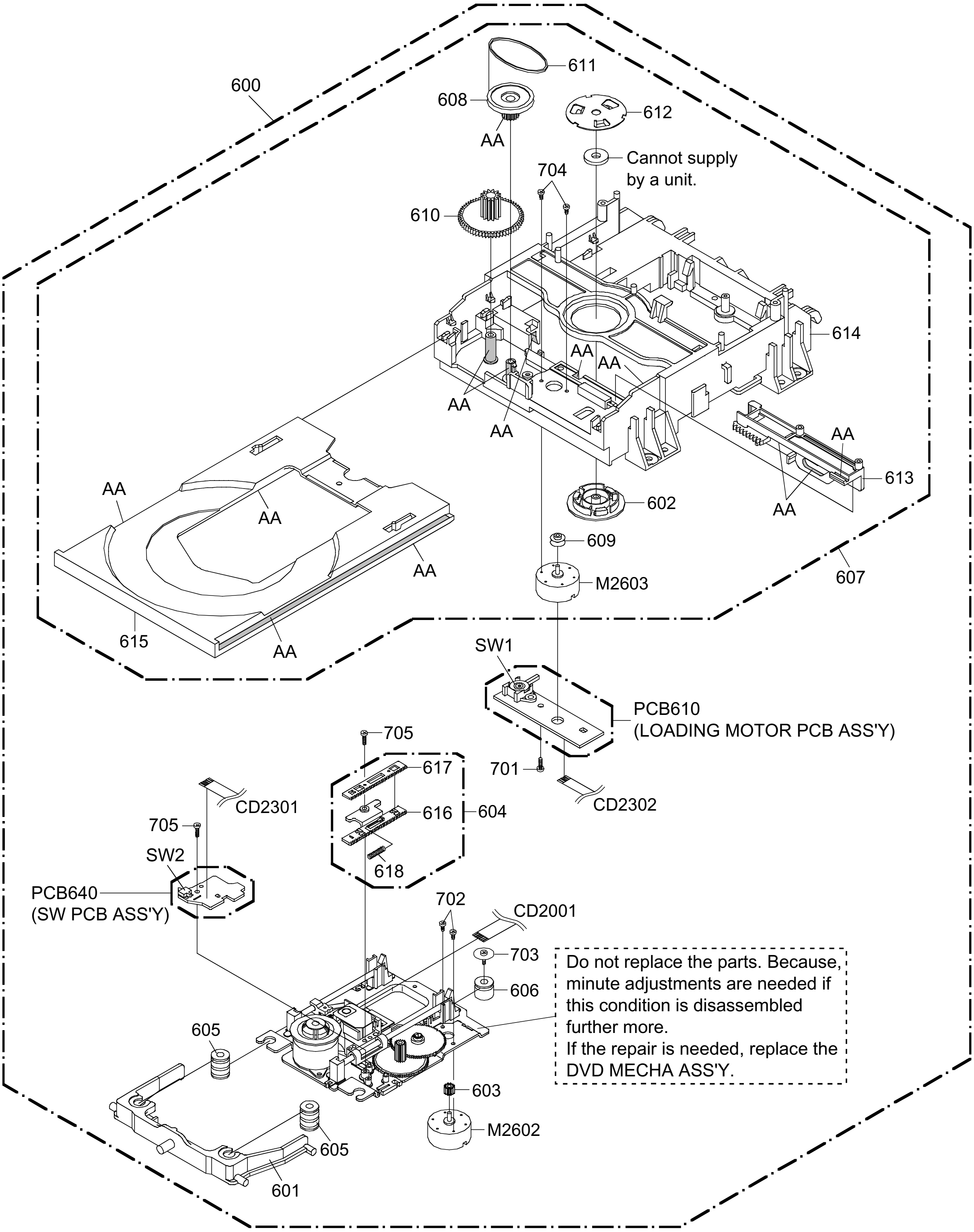
CHASSIS EXPLODED VIEW (BOTTOM VIEW)


303
300
501
M2001
350
CD1501
502
CD1502
AA
339
AA
338
502
AA
502
AA
AA
AA
329
337
311
AA
AA
310
509
AA
340
AA
308
AA
AA
344
327
343
AA
AA
326
328
AA
505
330

CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section.
Check if the correct grease is applied for each position.

DVD DECK EXPLODED VIEW


600
611
608
612
AA
704
Cannot supply by a unit.
610
614
AA
AA
AA
AA
AA
613
AA
602
AA
609
M2603
607
AA
AA
AA
615
AA
SW1
PCB610
(LOADING MOTOR PCB ASS'Y)
705
617
701
CD2301
616
604
CD2302
705
SW2
618
PCB640
(SW PCB ASS'Y)
702
CD2001
703
606
605
603
M2602
605
601

Do not replace the parts. Because, minute adjustments are needed if this condition is disassembled further more.
If the repair is needed, replace the DVD MECHA ASS'Y.

CLASS	MARK
GREASE	AA

NOTE: Applying positions AA for the grease are displayed for this section.
Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST
(SD-V392SUA)

Location No.	TSB P/N	Reference No.	Description	
101	AE004718	7A701A168A	FRONT CABI ASS'Y	
101A	AE002738	701WPJC500	CABINET,FRONT	
101B	AE002739	711WPDA644	PLATE,DISPLAY	
101C	AE002740	712WPBA081	FLAP,VCR	
101D	AE002741	712WPJB967	FLAP,DVD	
101E	AE001167	7230007689	SHEET,LED	
101F	AE001847	7235490018	BADGE,BRAND	
101G	AE002742	736WPJA007	BUTTON,FRAME-VCR	
101H	AE002743	736WPJA008	BUTTON,FRAME-DVD	
101I	AE001324	742WKA0001	SPRING,DVD-FLAP	
101J	AE001848	743WKA0042	SPRING,FLAP	
101K	AE004701	800WFAA015	CUSHION,LEG	
101L	AE002744	800WQ00084	DOUBLE FACE TAPE	
102	BZ710577	701WPA0686	HOLDER,DECK	
103	BZ710658	701WPA0751	HOLDER,DECK	
104	AE003509	753WUA0065	SPRING,EARTH	
105	AE004702	702WSA0212	CABINET,TOP	
106	AE001851	761WPA0262	HOLDER,DECK TOP	
107	AE001852	8965TS1010	CUSHION 65TS10-10	10x20x25
108	AE004978	795WCAA224	PAD TYPE:B	
109	AE004703	761WPA0321	HOLDER,DVD BL	
110	BZ710498	85OP700038	HOLDER,END SENSOR	
111	AE002747	752WUA0006	SHIELD,3PIN	
112	AE004704	702WSA0214	PLATE,BOTTOM	
113	AE004719	722549A375	SHEET,RATING	
114	AE004706	723000C651	SHEET,JACK	
115	AD301688	7260000341	SHEET,CAUTION	
116	79091466	761WPA0261	HOLDER,DVD BR	
117	BZ710659	752WSA0290	SHIELD,COMPO	
118	AE004979	761WSAA025	ANGLE,FRONT	
119	AE002746	761WPA0301	HOLDER,FFC	
120	AE004980	J2D60143A	NETFLIX CARD	
121	AD301577	791WHA0100	GIFT SHEET	
122	AE003278	792WHAA117	PACKAGE,BACK	
123	AE004708	792WHA0558	PACKAGE,FRONT	
124	AE004720	793WCDC329	GIFT BOX	
125	AE004721	A2D807X975	INSTRUCTION BOOK KIT	
126	AE004981	JB5KD500	POLYBAG,INSTRUCTION(RED CAUTION)	
127	AE004722	J2D80701A	INSTRUCTION BOOK	
128	AE004723	J2D80707A	QUICK SET-UP SHEET	
129	AE004982	J2D60129A	INFORMATION SHEET	
130	AE004983	J2D60117A	REGISTRATION CARD	
131	AE004984	795WCAA225	PAD TYPE:C	
201	BZ710582	8109130B94	SCREW,TAP TITE(B) R PAN	3x29
202	BZ710581	8109230704	SCREW,TAP TITE(B) R BIND	3x7
203	BZ710678	8109230804	SCREW,TAP TITE(B) BIND	3x8
204	AD301575	8109K30601	SCREW,TAP TITE(B) BIND(3D)	3x6
205	79091474	8154D30334	SCREW,TAP TITE(B) WH8	3x33R
206	BZ710239	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
207	AE002171	8110326A04	SCREW,TAP TITE(P) FLAT	2.6x10
208	BZ710187	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
209	AE001854	8107130404	SCREW,TAP TITE(S) PAN	3x4
210	BZ710017	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
211	AE002618	810F130804	SEMS(F)	3x8

MECHANICAL REPLACEMENT PARTS LIST
(SD-V392SCA)

Location No.	TSB P/N	Reference No.	Description	
101	AE004718	7A701A168A	FRONT CABI ASS'Y	
101A	AE002738	701WPJC500	CABINET,FRONT	
101B	AE002739	711WPDA644	PLATE,DISPLAY	
101C	AE002740	712WPBA081	FLAP,VCR	
101D	AE002741	712WPJB967	FLAP,DVD	
101E	AE001167	7230007689	SHEET,LED	
101F	AE001847	7235490018	BADGE,BRAND	
101G	AE002742	736WPJA007	BUTTON,FRAME-VCR	
101H	AE002743	736WPJA008	BUTTON,FRAME-DVD	
101I	AE001324	742WKA0001	SPRING,DVD-FLAP	
101J	AE001848	743WKA0042	SPRING,FLAP	
101K	AE004701	800WFAA015	CUSHION,LEG	
101L	AE002744	800WQ00084	DOUBLE FACE TAPE	
102	BZ710577	701WPA0686	HOLDER,DECK	
103	BZ710658	701WPA0751	HOLDER,DECK	
104	AE003509	753WUA0065	SPRING,EARTH	
105	AE004702	702WSA0212	CABINET,TOP	
106	AE001851	761WPA0262	HOLDER,DECK TOP	
107	AE001852	8965TS1010	CUSHION 65TS10-10	10x20x25
108	AE004978	795WCAA224	PAD TYPE:B	
109	AE004703	761WPA0321	HOLDER,DVD BL	
110	BZ710498	85OP700038	HOLDER,END SENSOR	
111	AE002747	752WUA0006	SHIELD,3PIN	
112	AE004704	702WSA0214	PLATE,BOTTOM	
113	AE004725	722549A380	SHEET,RATING	
114	AE004706	723000C651	SHEET,JACK	
115	AD301688	7260000341	SHEET,CAUTION	
116	79091466	761WPA0261	HOLDER,DVD BR	
117	BZ710659	752WSA0290	SHIELD,COMPO	
118	AE004979	761WSAA025	ANGLE,FRONT	
119	AE002746	761WPA0301	HOLDER,FFC	
120	AE004726	J2D80810A	INSTRUCTION BOOK(F)	
121	AD301577	791WHA0100	GIFT SHEET	
122	AE003278	792WHAA117	PACKAGE,BACK	
123	AE004708	792WHA0558	PACKAGE,FRONT	
124	AE004727	793WCDC359	GIFT BOX	
125	AE004728	A2D808X975	INSTRUCTION BOOK KIT	
126	AE000060	JB5UD300	POLYBAG,INSTRUCTION(RED CAUTION)	
127	AE004729	J2D80801A	INSTRUCTION BOOK(E)	
128	AE004985	J2C53429A	INFORMATION SHEET	
129	AE004984	795WCAA225	PAD TYPE:C	
201	BZ710582	8109130B94	SCREW,TAP TITE(B) R PAN	3x29
202	BZ710581	8109230704	SCREW,TAP TITE(B) R BIND	3x7
203	BZ710678	8109230804	SCREW,TAP TITE(B) BIND	3x8
204	AD301575	8109K30601	SCREW,TAP TITE(B) BIND(3D)	3x6
205	79091474	8154D30334	SCREW,TAP TITE(B) WH8	3x33R
206	BZ710239	8109I30A04	SCREW,TAP TITE(B) WH7	3x10
207	AE002171	8110326A04	SCREW,TAP TITE(P) FLAT	2.6x10
208	BZ710187	8110226804	SCREW,TAP TITE(P) BIND	2.6x8
209	AE001854	8107130404	SCREW,TAP TITE(S) PAN	3x4
210	BZ710017	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
211	AE002618	810F130804	SEMS(F)	3x8

CHASSIS REPLACEMENT PARTS LIST
(SD-V392SUA)

	Location No.	TSB P/N	Reference No.	Description	
	300	AE004713	A2D801T420K	DECK ASSY	A2D801T420K
	301	AE002754	85OA400240	PINCH ROLLER BLOCK (VA)	
	302	BZ710682	85OA500026	AHC ASS'Y	
	303	BZ710193	85OP200290	BELT,CAPSTAN (S)	
	304	BZ710515	85OP600581	WORM	
	305	BZ710094	85OP500083	BASE,AC HEAD	
	306	BZ710112	85OP800324	SPRING,AC HEAD	
	307	BZ710516	85OA000459	MAIN CHASSIS ASS'Y	
	308	BZ710517	85OA200089	CLUTCH ASS'Y	
	309	BZ710518	85OA200090	ARM IDLER ASS'Y	
	310	BZ710519	85OA300065	LOADING ARM S UNIT	
	311	BZ710520	85OA300066	LOADING ARM T UNIT	
	312	BZ710521	85OA400223	INCLINED BASE T UINT 3S	
	313	BZ710522	85OA400232	P5 ARM ASS'Y 2	
	314	BZ710650	85OA400235	TENSION ARM ASS'Y 2	
	315	BZ710524	85OA400231	INCLINED BASE S UNIT	
	316	AE000442	85OP800367	SPRING,LOCKER	
	317	BZ710526	85OP900736	CASS,HOLDER	
	318	BZ710527	85OP900748	CASS,SIDE L	
	319	BZ710528	85OP900749	CASS,SIDE R	
	320	BZ710529	85OP900739	LOCKER,R	
	321	BZ710530	85OA900228	LINK UNIT	
	322	BZ710531	85OP000496	POST,CASS GUIDE	
	323	BZ710532	85OP200316	REEL,S (S)	
	324	BZ710533	85OP200317	REEL,T (S)	
	325	BZ710534	85OP200308	GEAR,IDLER	
	326	BZ710535	85OP200311	GEAR,CLUTCH	
	327	BZ710536	85OP200312	GEAR,COUPLING	
	328	BZ710537	85OP200313	LEVER,CLUTCH	
	329	BZ710538	85OP300194	GEAR,MAIN LOADING	
	330	BZ710092	85OP400490	LEVER,TENSION	
	331	BZ710093	85OP400492	HOLDER,TENSION	
	332	BZ710366	85OP400520	CAP.P4	
	333	BZ710762	85OP400542	BAND,TENSION	
	334	BZ710540	85OP400533	CONNECT,TENSION	
	335	BZ710541	85OP600573	ARM,BRAKE T	
	336	BZ710763	85OP600584	BAND,BRAKE T	
	337	BZ710543	85OP600577	CAM,PINCH ROLLER	
	338	BZ710544	85OP600578	CAM,MAIN	
	339	BZ710545	85OP600579	ROD,MAIN	
	340	BZ710546	85OP600582	GEAR,JOINT	
	341	BZ710110	85OP800322	SPRING,TENSION	
	342	BZ710547	85OP800360	SPRING,BRAKE T	
	343	BZ710548	85OP800355	SPRING,COUPLING	
	344	BZ710549	85OP800356	SPRING,RING	
	345	BZ710550	85OP900743	LEVER,LINK	
	346	BZ710551	85OP900744	LEVER,FLAP	
	347	BZ710552	85OP900745	CASS,OPENER	
	348	BZ710106	85OP700035	REFLECTOR,LED	
	349	BZ710514	85OP900746	BRACKET,TOP 3V	
	350	AE004275	85OP400549	HOLDER,CAPSTAN	
	501	BZ710049	8107226804	SCREW,TAP TITE(S) BIND	2.6x8
	502	BZ710058	83ETW30000	E-RING	3.0
	503	BZ710371	8107226404	SCREW,TAP TITE(S) BIND	2.6x4
	504	BZ710046	8102120604	SCREW,PAN	M2x6
	505	BZ710050	8109126604	SCREW,TAP TITE(B) PAN	2.6x6
	506	BZ710553	810A130404	SCREW/WASHER(A)	M3x4
	507	BZ710219	810A126504	SCREW/WASHER(A)	M2.6x5
	508	BZ710056	82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
	509	BZ710054	82P184505N	POLYSLIDER WASHER(CUT)	1.8x4.5xT0.5
	510	BZ710017	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
	CD1501	BZ614292	122H071704	CORD JUMPER	2H071704
	CD1502	BZ614339	122Y021902	CORD JUMPER	2Y021902
	H5001	AE004714	1523Q91004	HEAD,AUDIO CONTROL	VTR-1X2RPE22-772
	H5002	AD301676	1543Q02014	HEAD (FULL ERASE)	VTR-1X2ERS11-154
⚠	M101	BZ710554	1596S98001	MOTOR (LOADING)	MDB2B66
⚠	M2001	AE004276	1510S98042	CAPSTAN DD UNIT	F2QVB73
	M2003	AE003673	1589S11020	MICRO MOTOR	I2OAL34
⚠	UN4001	AE004322	A5L1046500	CYLINDER UNIT ASS'Y	A5L1046500

CHASSIS REPLACEMENT PARTS LIST
(SD-V392SCA)

	Location No.	TSB P/N	Reference No.	Description	
	300	AE004713	A2D801T420K	DECK ASSY	A2D801T420K
	301	AE002754	85OA400240	PINCH ROLLER BLOCK (VA)	
	302	BZ710682	85OA500026	AHC ASS'Y	
	303	BZ710193	85OP200290	BELT,CAPSTAN (S)	
	304	BZ710515	85OP600581	WORM	
	305	BZ710094	85OP500083	BASE,AC HEAD	
	306	BZ710112	85OP800324	SPRING,AC HEAD	
	307	BZ710516	85OA000459	MAIN CHASSIS ASS'Y	
	308	BZ710517	85OA200089	CLUTCH ASS'Y	
	309	BZ710518	85OA200090	ARM IDLER ASS'Y	
	310	BZ710519	85OA300065	LOADING ARM S UNIT	
	311	BZ710520	85OA300066	LOADING ARM T UNIT	
	312	BZ710521	85OA400223	INCLINED BASE T UINT 3S	
	313	BZ710522	85OA400232	P5 ARM ASS'Y 2	
	314	BZ710650	85OA400235	TENSION ARM ASS'Y 2	
	315	BZ710524	85OA400231	INCLINED BASE S UNIT	
	316	AE000442	85OP800367	SPRING,LOCKER	
	317	BZ710526	85OP900736	CASS,HOLDER	
	318	BZ710527	85OP900748	CASS,SIDE L	
	319	BZ710528	85OP900749	CASS,SIDE R	
	320	BZ710529	85OP900739	LOCKER,R	
	321	BZ710530	85OA900228	LINK UNIT	
	322	BZ710531	85OP000496	POST,CASS GUIDE	
	323	BZ710532	85OP200316	REEL,S (S)	
	324	BZ710533	85OP200317	REEL,T (S)	
	325	BZ710534	85OP200308	GEAR,IDLER	
	326	BZ710535	85OP200311	GEAR,CLUTCH	
	327	BZ710536	85OP200312	GEAR,COUPLING	
	328	BZ710537	85OP200313	LEVER,CLUTCH	
	329	BZ710538	85OP300194	GEAR,MAIN LOADING	
	330	BZ710092	85OP400490	LEVER,TENSION	
	331	BZ710093	85OP400492	HOLDER,TENSION	
	332	BZ710366	85OP400520	CAP.P4	
	333	BZ710762	85OP400542	BAND,TENSION	
	334	BZ710540	85OP400533	CONNECT,TENSION	
	335	BZ710541	85OP600573	ARM,BRAKE T	
	336	BZ710763	85OP600584	BAND,BRAKE T	
	337	BZ710543	85OP600577	CAM,PINCH ROLLER	
	338	BZ710544	85OP600578	CAM,MAIN	
	339	BZ710545	85OP600579	ROD,MAIN	
	340	BZ710546	85OP600582	GEAR,JOINT	
	341	BZ710110	85OP800322	SPRING,TENSION	
	342	BZ710547	85OP800360	SPRING,BRAKE T	
	343	BZ710548	85OP800355	SPRING,COUPLING	
	344	BZ710549	85OP800356	SPRING,RING	
	345	BZ710550	85OP900743	LEVER,LINK	
	346	BZ710551	85OP900744	LEVER,FLAP	
	347	BZ710552	85OP900745	CASS,OPENER	
	348	BZ710106	85OP700035	REFLECTOR,LED	
	349	BZ710514	85OP900746	BRACKET,TOP 3V	
	350	AE004275	85OP400549	HOLDER,CAPSTAN	
	501	BZ710049	8107226804	SCREW,TAP TITE(S) BIND	2.6x8
	502	BZ710058	83ETW30000	E-RING	3.0
	503	BZ710371	8107226404	SCREW,TAP TITE(S) BIND	2.6x4
	504	BZ710046	8102120604	SCREW,PAN	M2x6
	505	BZ710050	8109126604	SCREW,TAP TITE(B) PAN	2.6x6
	506	BZ710553	810A130404	SCREW/WASHER(A)	M3x4
	507	BZ710219	810A126504	SCREW/WASHER(A)	M2.6x5
	508	BZ710056	82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
	509	BZ710054	82P184505N	POLYSLIDER WASHER(CUT)	1.8x4.5xT0.5
	510	BZ710017	8107226604	SCREW,TAP TITE(S) BIND	2.6x6
	CD1501	BZ614292	122H071704	CORD JUMPER	2H071704
	CD1502	BZ614339	122Y021902	CORD JUMPER	2Y021902
	H5001	AE004714	1523Q91004	HEAD,AUDIO CONTROL	VTR-1X2RPE22-772
	H5002	AD301676	1543Q02014	HEAD (FULL ERASE)	VTR-1X2ERS11-154
⚠	M101	BZ710554	1596S98001	MOTOR (LOADING)	MDB2B66
⚠	M2001	AE004276	1510S98042	CAPSTAN DD UNIT	F2QVB73
	M2003	AE003673	1589S11020	MICRO MOTOR	I2OAL34
⚠	UN4001	AE004322	A5L1046500	CYLINDER UNIT ASS'Y	A5L1046500

DVD DECK REPLACEMENT PARTS LIST
(SD-V392SUA)

Location No.	TSB P/N	Reference No.	Description	
600	AE004715	A2D807X650	DVD MECHA ASS'Y	A2D807X650
601	AE003534	92P100098A	HOLDER,TRAVERSE	
602	AE003550	92P100094A	CLAMPER	
603	AE003551	92P100088A	GEAR,MOTOR	
604	AE003537	92AAA0013A	FEED RACK ASS'Y	
605	AE003538	92P200013A	INSULATOR(F)	
606	AE003539	92P200014A	INSULATOR(R)	
607	AE004323	92SBB0019A	LOADER SUB ASS'Y	
608	AE003541	92P100095A	GEAR,PULLEY	
609	AE003542	92P100097A	PULLEY,MOTOR	
610	AE003549	92P100096A	GEAR,MAIN	
611	AE003544	92P200012A	BELT,LOADING	
612	AE003545	92P000014A	PLATE,CLAMPER	
613	AE003546	92P100093A	RACK,LOADING	
614	AE003547	92P100091A	FRAME,MAIN	
615	AE003548	92P100092A	TRAY	
616	AE003535	92P100089A	RACK,FEED 1	
617	AE003536	92P100090A	RACK,FEED 2	
618	AE003543	92P300020A	SPRING,RACK FEED	
701	AE003530	811022680U	SCREW,TAP TITE(P) BIND	2.6x8
702	AE003554	814011723U	SCREW,PAN	M1.7x2.3 P3
703	AE003555	816112080U	SEMS.TAP TITE(P) PAN W10	2x8
704	AE003556	814011730U	SCREW,PAN	M1.7x3 P3
705	AE003557	811022080U	SCREW,TAP TITE(P) BIND	2x8
CD2001	AD301855	122H0O1901	CORD JUMPER	2H0O1901
CD2301	AE003558	122H062102	CORD JUMPER	2H062102
CD2302	AE003559	122H052601	CORD JUMPER	2H052601
⚠ M2602	AE003560	1515S98002	FEED MOTOR	BCZ3B03
⚠ M2603	AE003561	1596S18002	LOADING MOTOR	BCZ3B52
PCB610	AE004716	A2D807X610	PCB ASS'Y	VEDA47A
PCB640	AE003563	A5M4016640	PCB ASS'Y	DED002A
SW1	AE003564	0515S32002	SWITCH	SSS-13-2
SW2	AE003565	0500101037	PUSH SWITCH	ESE22MH24

DVD DECK REPLACEMENT PARTS LIST
(SD-V392SCA)

Location No.	TSB P/N	Reference No.	Description	
600	AE004715	A2D807X650	DVD MECHA ASS'Y	A2D807X650
601	AE003534	92P100098A	HOLDER,TRAVERSE	
602	AE003550	92P100094A	CLAMPER	
603	AE003551	92P100088A	GEAR,MOTOR	
604	AE003537	92AAA0013A	FEED RACK ASS'Y	
605	AE003538	92P200013A	INSULATOR(F)	
606	AE003539	92P200014A	INSULATOR(R)	
607	AE004323	92SBB0019A	LOADER SUB ASS'Y	
608	AE003541	92P100095A	GEAR,PULLEY	
609	AE003542	92P100097A	PULLEY,MOTOR	
610	AE003549	92P100096A	GEAR,MAIN	
611	AE003544	92P200012A	BELT,LOADING	
612	AE003545	92P000014A	PLATE,CLAMPER	
613	AE003546	92P100093A	RACK,LOADING	
614	AE003547	92P100091A	FRAME,MAIN	
615	AE003548	92P100092A	TRAY	
616	AE003535	92P100089A	RACK,FEED 1	
617	AE003536	92P100090A	RACK,FEED 2	
618	AE003543	92P300020A	SPRING,RACK FEED	
701	AE003530	811022680U	SCREW,TAP TITE(P) BIND	2.6x8
702	AE003554	814011723U	SCREW,PAN	M1.7x2.3 P3
703	AE003555	816112080U	SEMS.TAP TITE(P) PAN W10	2x8
704	AE003556	814011730U	SCREW,PAN	M1.7x3 P3
705	AE003557	811022080U	SCREW,TAP TITE(P) BIND	2x8
CD2001	AD301855	122H0O1901	CORD JUMPER	2H0O1901
CD2301	AE003558	122H062102	CORD JUMPER	2H062102
CD2302	AE003559	122H052601	CORD JUMPER	2H052601
⚠ M2602	AE003560	1515S98002	FEED MOTOR	BCZ3B03
⚠ M2603	AE003561	1596S18002	LOADING MOTOR	BCZ3B52
PCB610	AE004716	A2D807X610	PCB ASS'Y	VEDA47A
PCB640	AE003563	A5M4016640	PCB ASS'Y	DED002A
SW1	AE003564	0515S32002	SWITCH	SSS-13-2
SW2	AE003565	0500101037	PUSH SWITCH	ESE22MH24

ELECTRICAL REPLACEMENT PARTS LIST
(SD-V392SUA)

Location No.	TSB P/N	Reference No.	Description	
			RESISTORS	
R101	AE001839	R904N7561J	RC	560 OHM 1/10W
R102	AE001814	R904N7103J	RC	10K OHM 1/10W
R103	AE001814	R904N7103J	RC	10K OHM 1/10W
R105	BZ210119	R002T4102J	RC	1K OHM 1/4W
R106	AE001842	R904N7681J	RC	680 OHM 1/10W
R107	79091548	R904N7392J	RC	3.9K OHM 1/10W
R108	AE001827	R904N7223J	RC	22K OHM 1/10W
R109	BZ210119	R002T4102J	RC	1K OHM 1/4W
R110	AE001846	R904N7822J	RC	8.2K OHM 1/10W
R111	AE001846	R904N7822J	RC	8.2K OHM 1/10W
R112	79091280	R904N7334J	RC	330K OHM 1/10W
R113	AE001825	R904N7221J	RC	220 OHM 1/10W
R114	AE000851	R803R9203J	RC	20K OHM 1/16W
R115	AE001845	R904N7821J	RC	820 OHM 1/10W
R116	AE001821	R904N7153J	RC	15K OHM 1/10W
R117	AE001843	R904N7682J	RC	6.8K OHM 1/10W
R119	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R122	AE001815	R904N7104J	RC	100K OHM 1/10W
R123	BZ210126	R002T4222J	RC	2.2K OHM 1/4W
R124	79091342	R904N7823J	RC	82K OHM 1/10W
R126	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R127	AE004699	R904N7684J	RC	680K OHM 1/10W
R129	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R131	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R132	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R133	AE001846	R904N7822J	RC	8.2K OHM 1/10W
R136	AE001827	R904N7223J	RC	22K OHM 1/10W
R137	AE001007	R002T4123J	RC	12K OHM 1/4W
R138	AE001827	R904N7223J	RC	22K OHM 1/10W
R139	AE001818	R904N7123J	RC	12K OHM 1/10W
R140	BZ210126	R002T4222J	RC	2.2K OHM 1/4W
R141	AE001813	R904N7102J	RC	1K OHM 1/10W
R142	AE001845	R904N7821J	RC	820 OHM 1/10W
R143	AE001813	R904N7102J	RC	1K OHM 1/10W
R144	BZ210125	R002T4224J	RC	220K OHM 1/4W
R301	AE001833	R904N7333J	RC	33K OHM 1/10W
R302	AE001813	R904N7102J	RC	1K OHM 1/10W
R304	AE001813	R904N7102J	RC	1K OHM 1/10W
R305	BZ210119	R002T4102J	RC	1K OHM 1/4W
R306	79091142	R803R9220J	RC	22 OHM 1/16W
⚠R501	BZ210219	R0G3K2335K	RC	3.3M OHM 1/2W
⚠R502	BZ210039	R3X181010J	R,METAL OXIDE	1 OHM 1W
⚠R503	BZ210206	R002T2155J	RC	1.5M OHM 1/2W
⚠R504	AE000145	R002T2561J	RC	560 OHM 1/2W
R505	AE002237	R002T4684J	RC	680K OHM 1/4W
R506	AE001774	R002T2105J	RC	1M OHM 1/2W
R507	AE001814	R904N7103J	RC	10K OHM 1/10W
R508	AD301203	R002T4101J	RC	100 OHM 1/4W
R509	AD301203	R002T4101J	RC	100 OHM 1/4W
R511	AE004698	R904N7564J	RC	560K OHM 1/10W
⚠R512	AE001779	R3X181683J	R,METAL OXIDE	68K OHM 1W
R513	AE000934	R002T2391J	RC	390 OHM 1/2W
R514	AE000350	R002T2221J	RC	220 OHM 1/2W
R515	79091334	R904N7273J	RC	27K OHM 1/10W
⚠R516	BZ210190	R63581R22J	R,FUSE	0.22 OHM 1W
⚠R517	BZ210180	R002T2102J	RC	1K OHM 1/2W
R518	AE001819	R904N7151J	RC	150 OHM 1/10W
R519	AE001813	R904N7102J	RC	1K OHM 1/10W
R520	AE001795	R803R9332F	RC	3.3K OHM 1/16W
R521	AE001834	R904N7391J	RC	390 OHM 1/10W
R522	AE001795	R803R9332F	RC	3.3K OHM 1/16W
R523	AE001843	R904N7682J	RC	6.8K OHM 1/10W
R524	AD301203	R002T4101J	RC	100 OHM 1/4W
R527	BZ210135	R002T4221J	RC	220 OHM 1/4W
R529	AE002237	R002T4684J	RC	680K OHM 1/4W
R530	AE002236	R002T4474J	RC	470K OHM 1/4W
R531	AE001814	R904N7103J	RC	10K OHM 1/10W
R532	AE001814	R904N7103J	RC	10K OHM 1/10W
R533	BZ210135	R002T4221J	RC	220 OHM 1/4W
R534	BZ210192	R002T4223J	RC	22K OHM 1/4W
R535	BZ210192	R002T4223J	RC	22K OHM 1/4W

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.	Description	
			RESISTORS	
R536	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R547	AE001815	R904N7104J	RC	100K OHM 1/10W
R549	BZ210164	R002T4104J	RC	100K OHM 1/4W
R552	AE001812	R904N7101J	RC	100 OHM 1/10W
R553	BZ210118	R002T4473J	RC	47K OHM 1/4W
R554	BZ210182	R002T4103J	RC	10K OHM 1/4W
R601	BZ210107	R002T4750J	RC	75 OHM 1/4W
R602	BZ210060	R002T4332J	RC	3.3K OHM 1/4W
R603	AE001778	R002T4622J	RC	6.2K OHM 1/4W
R604	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R605	AD301203	R002T4101J	RC	100 OHM 1/4W
R606	AE001555	R002T4563J	RC	56K OHM 1/4W
R607	BZ210135	R002T4221J	RC	220 OHM 1/4W
R661	AE001845	R904N7821J	RC	820 OHM 1/10W
R662	AE001823	R904N7181J	RC	180 OHM 1/10W
R663	AE001823	R904N7181J	RC	180 OHM 1/10W
R664	AE001845	R904N7821J	RC	820 OHM 1/10W
R665	AE001823	R904N7181J	RC	180 OHM 1/10W
R666	AE001823	R904N7181J	RC	180 OHM 1/10W
R667	AE001823	R904N7181J	RC	180 OHM 1/10W
R668	AE001823	R904N7181J	RC	180 OHM 1/10W
R669	AE001845	R904N7821J	RC	820 OHM 1/10W
R670	AE001823	R904N7181J	RC	180 OHM 1/10W
R671	AE001845	R904N7821J	RC	820 OHM 1/10W
R672	AE001823	R904N7181J	RC	180 OHM 1/10W
R673	AE001823	R904N7181J	RC	180 OHM 1/10W
R674	AE001823	R904N7181J	RC	180 OHM 1/10W
R675	AE001845	R904N7821J	RC	820 OHM 1/10W
R683	AE001293	R904N7271J	RC	270 OHM 1/10W
R685	AE001776	R002T4133J	RC	13K OHM 1/4W
R686	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R687	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R689	BZ210060	R002T4332J	RC	3.3K OHM 1/4W
R690	BZ210202	R002T4333J	RC	33K OHM 1/4W
R691	BZ210125	R002T4224J	RC	220K OHM 1/4W
R692	AD301301	R002T4152J	RC	1.5K OHM 1/4W
R701	AE001836	R904N7472J	RC	4.7K OHM 1/10W
R702	BZ210118	R002T4473J	RC	47K OHM 1/4W
R703	AE001007	R002T4123J	RC	12K OHM 1/4W
R704	BZ210119	R002T4102J	RC	1K OHM 1/4W
R706	BZ210118	R002T4473J	RC	47K OHM 1/4W
R707	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R708	AE001831	R904N7331J	RC	330 OHM 1/10W
R710	AE004696	R002T4394J	RC	390K OHM 1/4W
R711	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R712	BZ210118	R002T4473J	RC	47K OHM 1/4W
R713	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R714	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R715	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R716	AE001831	R904N7331J	RC	330 OHM 1/10W
R717	AE001831	R904N7331J	RC	330 OHM 1/10W
R718	AD301430	R002T4225J	RC	2.2M OHM 1/4W
R719	BZ210118	R002T4473J	RC	47K OHM 1/4W
R720	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R721	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R722	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R723	AE001007	R002T4123J	RC	12K OHM 1/4W
R724	BZ210119	R002T4102J	RC	1K OHM 1/4W
R725	79091549	R904N7393J	RC	39K OHM 1/10W
R726	AE001824	R904N7182J	RC	1.8K OHM 1/10W
R727	AE001835	R904N7471J	RC	470 OHM 1/10W
R728	AD301203	R002T4101J	RC	100 OHM 1/4W
R729	AD301203	R002T4101J	RC	100 OHM 1/4W
R731	AE001813	R904N7102J	RC	1K OHM 1/10W
R2301	AE001783	R803R9102J	RC	1K OHM 1/16W
R2303	79091546	R904N72R2J	RC	2.2 OHM 1/10W
R2304	79091546	R904N72R2J	RC	2.2 OHM 1/10W
R2305	AE004697	R8E3P9273J	RC	27K OHM 1/16W
R2306	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R2307	AE004697	R8E3P9273J	RC	27K OHM 1/16W
R2308	AE001784	R803R9103J	RC	10K OHM 1/16W

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.	Description	
			RESISTORS	
R2309	AE004090	R803R9471F	RC	470 OHM 1/16W
R2310	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2312	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2313	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2314	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2315	AE001784	R803R9103J	RC	10K OHM 1/16W
R2316	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R2317	AE001827	R904N7223J	RC	22K OHM 1/10W
R2318	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R2319	AE004697	R8E3P9273J	RC	27K OHM 1/16W
R2320	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2321	AE004697	R8E3P9273J	RC	27K OHM 1/16W
R2322	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2323	AE004247	R803R91R2J	RC	1.2 OHM 1/16W
R2324	AE001783	R803R9102J	RC	1K OHM 1/16W
R2325	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R2326	79091548	R904N7392J	RC	3.9K OHM 1/10W
R2327	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2328	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2329	AE004247	R803R91R2J	RC	1.2 OHM 1/16W
R2330	AE001783	R803R9102J	RC	1K OHM 1/16W
R2331	AE004090	R803R9471F	RC	470 OHM 1/16W
R2334	AE001784	R803R9103J	RC	10K OHM 1/16W
R2335	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R2336	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2337	AE001784	R803R9103J	RC	10K OHM 1/16W
R2338	AE001818	R904N7123J	RC	12K OHM 1/10W
R2339	AE001816	R904N7105J	RC	1M OHM 1/10W
R2601	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2602	AE000850	R803R9185J	RC	1.8M OHM 1/16W
R2603	AE000847	R803R9133F	RC	13K OHM 1/16W
R2604	AE000852	R803R9273F	RC	27K OHM 1/16W
R2605	AE000845	R803R9103F	RC	10K OHM 1/16W
R2607	AE001787	R803R9122J	RC	1.2K OHM 1/16W
R2608	AE001787	R803R9122J	RC	1.2K OHM 1/16W
R2609	AE001817	R904N7122J	RC	1.2K OHM 1/10W
R2610	AE000853	R803R9512F	RC	5.1K OHM 1/16W
R2611	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2612	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2613	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2614	AE001285	R8E3P9123F	RC	12K OHM 1/16W
R2615	AE001811	R904N7100J	RC	10 OHM 1/10W
R2616	AE001783	R803R9102J	RC	1K OHM 1/16W
R2617	AE001783	R803R9102J	RC	1K OHM 1/16W
R2618	AE001811	R904N7100J	RC	10 OHM 1/10W
R2619	AE001812	R904N7101J	RC	100 OHM 1/10W
R2620	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2621	AE001781	R803R9101J	RC	100 OHM 1/16W
R2622	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2623	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2624	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2635	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2643	AE001783	R803R9102J	RC	1K OHM 1/16W
R2644	AE001790	R803R9222J	RC	2.2K OHM 1/16W
R2645	AE001783	R803R9102J	RC	1K OHM 1/16W
R2646	AE001790	R803R9222J	RC	2.2K OHM 1/16W
R2647	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2648	AE000848	R803R9133J	RC	13K OHM 1/16W
R2649	AE001812	R904N7101J	RC	100 OHM 1/10W
R2650	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2651	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R2652	AE001812	R904N7101J	RC	100 OHM 1/10W
R2653	AE001812	R904N7101J	RC	100 OHM 1/10W
R3001	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R3002	AE001775	R002T4121J	RC	120 OHM 1/4W
R3003	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R3004	79091280	R904N7334J	RC	330K OHM 1/10W
R3006	AE001837	R904N7473J	RC	47K OHM 1/10W
R3007	AE001843	R904N7682J	RC	6.8K OHM 1/10W
R3008	AE001813	R904N7102J	RC	1K OHM 1/10W
R3009	AE001836	R904N7472J	RC	4.7K OHM 1/10W

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.	Description	
			RESISTORS	
R3010	AE001814	R904N7103J	RC	10K OHM 1/10W
R3011	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3012	AE001555	R002T4563J	RC	56K OHM 1/4W
R3014	AE001841	R904N7563J	RC	56K OHM 1/10W
R3015	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3016	AE000356	R002T4271J	RC	270 OHM 1/4W
R3017	AE001839	R904N7561J	RC	560 OHM 1/10W
R3019	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3020	AE001839	R904N7561J	RC	560 OHM 1/10W
R3021	AE001813	R904N7102J	RC	1K OHM 1/10W
R3022	AE001822	R904N7154J	RC	150K OHM 1/10W
R3025	AE001835	R904N7471J	RC	470 OHM 1/10W
R3026	AE001829	R904N7274J	RC	270K OHM 1/10W
R3027	AE001821	R904N7153J	RC	15K OHM 1/10W
R3028	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3030	AE001840	R904N7562J	RC	5.6K OHM 1/10W
R3031	AE001816	R904N7105J	RC	1M OHM 1/10W
R3032	AE001814	R904N7103J	RC	10K OHM 1/10W
R3033	AE001814	R904N7103J	RC	10K OHM 1/10W
R3034	AE001816	R904N7105J	RC	1M OHM 1/10W
R3035	AE001814	R904N7103J	RC	10K OHM 1/10W
R3036	AE001814	R904N7103J	RC	10K OHM 1/10W
R3037	AE001837	R904N7473J	RC	47K OHM 1/10W
R3038	AE001836	R904N7472J	RC	4.7K OHM 1/10W
R3043	AE001838	R904N7474J	RC	470K OHM 1/10W
R3044	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R3045	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R3046	AE001814	R904N7103J	RC	10K OHM 1/10W
R3047	AE001814	R904N7103J	RC	10K OHM 1/10W
R3049	AE001837	R904N7473J	RC	47K OHM 1/10W
R3050	AD301203	R002T4101J	RC	100 OHM 1/4W
R3051	AE001292	R904N7183J	RC	18K OHM 1/10W
R3053	AE001838	R904N7474J	RC	470K OHM 1/10W
R3055	AE001827	R904N7223J	RC	22K OHM 1/10W
R3056	AE001813	R904N7102J	RC	1K OHM 1/10W
R3057	AE001827	R904N7223J	RC	22K OHM 1/10W
R3062	AE001813	R904N7102J	RC	1K OHM 1/10W
R3063	AE001813	R904N7102J	RC	1K OHM 1/10W
R3083	AE001833	R904N7333J	RC	33K OHM 1/10W
R3087	AE001833	R904N7333J	RC	33K OHM 1/10W
R4001	AE001290	R8E3P9391F	RC	390 OHM 1/16W
R4002	AE001899	R803R9750F	RC	75 OHM 1/16W
R4003	AE001809	R8E3P9750F	RC	75 OHM 1/16W
R4004	AE001810	R8E3P9820F	RC	82 OHM 1/16W
R4005	AE001809	R8E3P9750F	RC	75 OHM 1/16W
R4008	AE001781	R803R9101J	RC	100 OHM 1/16W
R4012	AE001887	R803R9105J	RC	1M OHM 1/16W
R4014	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4016	AE001781	R803R9101J	RC	100 OHM 1/16W
R4018	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4019	AE001830	R904N7330J	RC	33 OHM 1/10W
R4020	AE001830	R904N7330J	RC	33 OHM 1/10W
R4021	AE001830	R904N7330J	RC	33 OHM 1/10W
R4022	AE001784	R803R9103J	RC	10K OHM 1/16W
R4023	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4024	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4025	AE001825	R904N7221J	RC	220 OHM 1/10W
R4026	AE001825	R904N7221J	RC	220 OHM 1/10W
R4027	AE001825	R904N7221J	RC	220 OHM 1/10W
R4031	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4035	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4036	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4037	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4038	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4039	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4040	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4041	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4042	AE001781	R803R9101J	RC	100 OHM 1/16W
R4043	AE001784	R803R9103J	RC	10K OHM 1/16W
R4044	AE001784	R803R9103J	RC	10K OHM 1/16W
R4045	AD302345	R803R9472J	RC	4.7K OHM 1/16W

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Location No.	TSB P/N	Reference No.		Description
			RESISTORS	
R4046	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4047	AE001830	R904N7330J	RC	33 OHM 1/10W
R4048	AE001837	R904N7473J	RC	47K OHM 1/10W
R4049	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4050	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4051	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4052	AE001807	R8E3P9472J	RC	4.7K OHM 1/16W
R4053	AE001783	R803R9102J	RC	1K OHM 1/16W
R4054	AE001783	R803R9102J	RC	1K OHM 1/16W
R4056	AE001781	R803R9101J	RC	100 OHM 1/16W
R4057	AE001812	R904N7101J	RC	100 OHM 1/10W
R4058	AE001825	R904N7221J	RC	220 OHM 1/10W
R4059	AE001781	R803R9101J	RC	100 OHM 1/16W
R4060	AE001783	R803R9102J	RC	1K OHM 1/16W
R4061	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R4064	AE001781	R803R9101J	RC	100 OHM 1/16W
R4068	AE001812	R904N7101J	RC	100 OHM 1/10W
R4070	AE001837	R904N7473J	RC	47K OHM 1/10W
R4071	AE001819	R904N7151J	RC	150 OHM 1/10W
R4072	AE001846	R904N7822J	RC	8.2K OHM 1/10W
R4073	AE001781	R803R9101J	RC	100 OHM 1/16W
R8001	AE001803	R803R9750J	RC	75 OHM 1/16W
R8002	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R8003	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R8004	BZ210202	R002T4333J	RC	33K OHM 1/4W
R8005	AE001825	R904N7221J	RC	220 OHM 1/10W
R8006	AE001294	R904N7680J	RC	68 OHM 1/10W
R8007	AE001815	R904N7104J	RC	100K OHM 1/10W
R8008	AE001835	R904N7471J	RC	470 OHM 1/10W
R8009	AE000353	R002T2471J	RC	470 OHM 1/2W
R8010	AE001294	R904N7680J	RC	68 OHM 1/10W
R8011	AD301203	R002T4101J	RC	100 OHM 1/4W
R8012	AE001835	R904N7471J	RC	470 OHM 1/10W
R8014	AE001812	R904N7101J	RC	100 OHM 1/10W
R8015	AE001812	R904N7101J	RC	100 OHM 1/10W
R8016	AE001826	R904N7222J	RC	2.2K OHM 1/10W
R8017	AE001826	R904N7222J	RC	2.2K OHM 1/10W
R8021	AE001813	R904N7102J	RC	1K OHM 1/10W
R8022	AE001813	R904N7102J	RC	1K OHM 1/10W
R8023	AE001832	R904N7332J	RC	3.3K OHM 1/10W
R8024	AE001836	R904N7472J	RC	4.7K OHM 1/10W
R8025	AE001813	R904N7102J	RC	1K OHM 1/10W
R8026	AE001838	R904N7474J	RC	470K OHM 1/10W
R8027	AE001836	R904N7472J	RC	4.7K OHM 1/10W
R8028	AE001814	R904N7103J	RC	10K OHM 1/10W
R8029	AE001814	R904N7103J	RC	10K OHM 1/10W
R8030	AE001835	R904N7471J	RC	470 OHM 1/10W
R8031	AE001835	R904N7471J	RC	470 OHM 1/10W
R8032	AE001819	R904N7151J	RC	150 OHM 1/10W
R8033	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R8034	AE001820	R904N7152J	RC	1.5K OHM 1/10W
R8035	AE001814	R904N7103J	RC	10K OHM 1/10W
R8036	AE000487	R002T4560J	RC	56 OHM 1/4W
R8037	AE001814	R904N7103J	RC	10K OHM 1/10W
R8038	AE001818	R904N7123J	RC	12K OHM 1/10W
R8039	AE001818	R904N7123J	RC	12K OHM 1/10W
R8040	AE001837	R904N7473J	RC	47K OHM 1/10W
R8041	AE001814	R904N7103J	RC	10K OHM 1/10W
R8042	AE001814	R904N7103J	RC	10K OHM 1/10W
R8043	AE001814	R904N7103J	RC	10K OHM 1/10W
R8044	AE001837	R904N7473J	RC	47K OHM 1/10W
R8045	AE001815	R904N7104J	RC	100K OHM 1/10W
R8046	AE001815	R904N7104J	RC	100K OHM 1/10W
R8047	AE001814	R904N7103J	RC	10K OHM 1/10W
R8048	AE001814	R904N7103J	RC	10K OHM 1/10W
R8049	79091546	R904N72R2J	RC	2.2 OHM 1/10W
R8054	AE001826	R904N7222J	RC	2.2K OHM 1/10W
R8056	AE001819	R904N7151J	RC	150 OHM 1/10W
R8059	BZ210122	R002T4472J	RC	4.7K OHM 1/4W
R8101	AE001783	R803R9102J	RC	1K OHM 1/16W
R8112	AE001835	R904N7471J	RC	470 OHM 1/10W

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Location No.	TSB P/N	Reference No.		Description
			RESISTORS	
R8113	AE001835	R904N7471J	RC	470 OHM 1/10W
			CAPACITORS	
C101	AE004695	P232W1333J	CMP	0.033 UF 100V MMTS
C102	AE001544	E50HU3100M	CE	10 UF 25 V
C104	AE001768	E50HU0221M	CE	220 UF 6.3V
C105	BZ110263	E50HU2220M	CE	22 UF 16 V
C106	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C107	AE002126	CS0PB04E4K	CC	0.015 UF 50V B
C108	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C109	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C110	BZ210177	E02LU2470M	CE	47 UF 16V
C112	AE001768	E50HU0221M	CE	220 UF 6.3V
C114	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C115	AE001769	E50HU1330M	CE	33 UF 10 V
C116	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C117	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C118	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C119	AE001544	E50HU3100M	CE	10 UF 25 V
C120	AE000838	CS0PB0N16K	CC	1 UF 10V B
C121	AE001273	CS0PB04K3K	CC	0.0027UF 50V B
C122	AE002125	CS0PB04B3K	CC	0.0012UF 50V B
C123	AE001770	E50HU54R7M	CE	4.7 UF 50V
C124	AE000838	CS0PB0N16K	CC	1 UF 10V B
C125	79091498	CS0YCH4N2J	CC	390 PF 50V CH
C126	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C127	AE004690	CS0YCH4G2J	CC	180 PF 50V CH
C129	AE000838	CS0PB0N16K	CC	1 UF 10V B
C131	BZ110150	E50HU0101M	CE	100 UF 6.3V
C132	AE000838	CS0PB0N16K	CC	1 UF 10V B
C133	AE000838	CS0PB0N16K	CC	1 UF 10V B
C134	AE000838	CS0PB0N16K	CC	1 UF 10V B
C135	AE001767	E02LU5R22M	CE	0.22 UF 50V
C136	BZ110229	E02LU4220M	CE	22 UF 35V
C137	AE000838	CS0PB0N16K	CC	1 UF 10V B
C138	AD300788	E02LU5010M	CE	1 UF 50V
C139	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C140	AE002129	CS0PCH4E1J	CC	15 PF 50V CH
C141	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C142	AE000272	E50HU2470M	CE	47 UF 16V
C143	AE000838	CS0PB0N16K	CC	1 UF 10V B
C144	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C145	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C146	AE000838	CS0PB0N16K	CC	1 UF 10V B
C147	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C148	AE000838	CS0PB0N16K	CC	1 UF 10V B
C151	AE000838	CS0PB0N16K	CC	1 UF 10V B
C152	AE000272	E50HU2470M	CE	47 UF 16V
C154	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C156	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C158	AE000838	CS0PB0N16K	CC	1 UF 10V B
C162	AE000838	CS0PB0N16K	CC	1 UF 10V B
C165	AE001278	CS0YF04Q4Z	CC	0.047 UF 50V F
C166	AE003843	CS0PB02U4K	CC	0.068 UF 16V B
C169	AE001278	CS0YF04Q4Z	CC	0.047 UF 50V F
C174	AE001543	E50HU0470M	CE	47 UF 6.3V
C302	AE001729	CS0PCH412J	CC	100 PF 50V CH
C303	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C307	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C308	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C309	BZ110143	E02LU0221M	CE	220 UF 6.3V
C313	AE001544	E50HU3100M	CE	10 UF 25 V
C315	AE001544	E50HU3100M	CE	10 UF 25 V
C317	AE001729	CS0PCH412J	CC	100 PF 50V CH
C318	AE001544	E50HU3100M	CE	10 UF 25 V
⚠C501	BZ110119	E02LF2222M	CE	2200 UF 16V
⚠C502	BZ110025	P2122B224M	CMP	0.22 UF 275V ECQUL
⚠C505	AD301535	E02LU2101M	CE	100 UF 16V
C506	AE000336	E02LU1101M	CE	100 UF 10V
C508	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C509	AE004694	P1M4T0183J	CP	0.018 UF 50V
C510	AE001748	CS0YB04H4K	CC	0.022 UF 50V B

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
⚠C511	BZ110186	E62QFC470M	CE	47 UF 200V
C512	AE001544	E50HU3100M	CE	10 UF 25 V
C513	BZ110175	C03L0R7H2K	CC	220 PF 2KV R
⚠C514	AD301535	E02LU2101M	CE	100 UF 16V
⚠C515	AE001722	C0J0B0514K	CC	0.01 UF 500V B
⚠C516	BZ110256	CC3LE0MH3M	CC	0.0022UF 250V
⚠C518	AE004691	E61FF0222D	CE	2200 UF 6.3V
⚠C519	BZ110076	E02LF1222M	CE	2200 UF 10V
C520	AE001763	CS0YF0N16Z	CC	1 UF 10V F
⚠C521	AD301535	E02LU2101M	CE	100 UF 16V
⚠C522	BZ110205	E02LU5220M	CE	22 UF 50V
C524	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C525	BZ110172	C03L0R7U2K	CC	680 PF 2KV R
⚠C526	BZ110256	CC3LE0MH3M	CC	0.0022UF 250V
C527	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C530	AD301535	E02LU2101M	CE	100 UF 16V
C531	AE001723	C0JTB05S2K	CC	560 PF 500V B
C534	AE001763	CS0YF0N16Z	CC	1 UF 10V F
⚠C540	BZ110186	E62QFC470M	CE	47 UF 200V
C544	AE000838	CS0PB0N16K	CC	1 UF 10V B
C601	AE001544	E50HU3100M	CE	10 UF 25 V
C604	BZ110150	E50HU0101M	CE	100 UF 6.3V
C701	AE000838	CS0PB0N16K	CC	1 UF 10V B
C702	AE000838	CS0PB0N16K	CC	1 UF 10V B
C703	AE000838	CS0PB0N16K	CC	1 UF 10V B
C704	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C705	AE000838	CS0PB0N16K	CC	1 UF 10V B
C706	AE001673	CS0YCH4U2J	CC	680 PF 50V CH
C707	AE000838	CS0PB0N16K	CC	1 UF 10V B
C708	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C709	AE000838	CS0PB0N16K	CC	1 UF 10V B
C710	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C711	AE001759	CS0YCH4S2J	CC	560 PF 50V CH
C712	AE001770	E50HU54R7M	CE	4.7 UF 50V
C713	AE001770	E50HU54R7M	CE	4.7 UF 50V
C714	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C715	AE000838	CS0PB0N16K	CC	1 UF 10V B
C716	AE001770	E50HU54R7M	CE	4.7 UF 50V
C717	AE000838	CS0PB0N16K	CC	1 UF 10V B
C718	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C719	AE001770	E50HU54R7M	CE	4.7 UF 50V
C720	AE001544	E50HU3100M	CE	10 UF 25 V
C721	AE001544	E50HU3100M	CE	10 UF 25 V
C722	AD301535	E02LU2101M	CE	100 UF 16V
C723	AE000838	CS0PB0N16K	CC	1 UF 10V B
C724	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C725	BZ110263	E50HU2220M	CE	22 UF 16 V
C726	AE001770	E50HU54R7M	CE	4.7 UF 50V
C727	AD301762	E50HU52R2M	CE	2.2 UF 50V
C728	BZ110263	E50HU2220M	CE	22 UF 16 V
C730	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C731	BZ110150	E50HU0101M	CE	100 UF 6.3V
C732	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C733	AE001763	CS0YF0N16Z	CC	1 UF 10V F
C735	79091097	E50HU2101M	CE	100 UF 16 V
C739	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C740	AE001544	E50HU3100M	CE	10 UF 25 V
C741	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C742	AD301762	E50HU52R2M	CE	2.2 UF 50V
C743	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C744	AE001759	CS0YCH4S2J	CC	560 PF 50V CH
C746	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C747	AE000838	CS0PB0N16K	CC	1 UF 10V B
C748	AE000838	CS0PB0N16K	CC	1 UF 10V B
C749	AE001673	CS0YCH4U2J	CC	680 PF 50V CH
C750	AE001544	E50HU3100M	CE	10 UF 25 V
C751	BZ110263	E50HU2220M	CE	22 UF 16 V
C752	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C753	AE001770	E50HU54R7M	CE	4.7 UF 50V
C754	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C755	AE001544	E50HU3100M	CE	10 UF 25 V

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
C756	BZ110150	E50HU0101M	CE	100 UF 6.3V
C757	79091302	CS0YB04Q3K	CC	0.0047UF 50V B
C758	AE001770	E50HU54R7M	CE	4.7 UF 50V
C759	BZ110263	E50HU2220M	CE	22 UF 16 V
C760	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C762	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C763	BZ110263	E50HU2220M	CE	22 UF 16 V
C764	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C765	BZ110150	E50HU0101M	CE	100 UF 6.3V
C766	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C767	AE001770	E50HU54R7M	CE	4.7 UF 50V
C768	79091302	CS0YB04Q3K	CC	0.0047UF 50V B
C771	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C2301	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2302	AE001741	CS0YB0215K	CC	0.1 UF 16V B
C2303	AE001741	CS0YB0215K	CC	0.1 UF 16V B
C2304	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C2305	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C2306	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C2307	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2308	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2309	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C2310	BZ110034	E50HU1101M	CE	100 UF 10 V
C2311	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2312	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2313	AE001741	CS0YB0215K	CC	0.1 UF 16V B
C2314	BZ110034	E50HU1101M	CE	100 UF 10 V
C2603	AE001747	CS0YB04H3K	CC	0.0022UF 50V B
C2604	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2605	AE001747	CS0YB04H3K	CC	0.0022UF 50V B
C2606	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2607	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C2608	AE001543	E50HU0470M	CE	47 UF 6.3V
C2609	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2610	AE001277	CS0YB04U3K	CC	0.0068UF 50V B
C2611	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2612	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C2613	AE001756	CS0YCH4H2J	CC	220 PF 50V CH
C2614	AE001741	CS0YB0215K	CC	0.1 UF 16V B
C2615	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2616	AE001758	CS0YCH4Q2J	CC	470 PF 50V CH
C2617	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2618	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2619	AE001759	CS0YCH4S2J	CC	560 PF 50V CH
C2620	AE001276	CS0YB04S3K	CC	0.0056UF 50V B
C2621	AE001276	CS0YB04S3K	CC	0.0056UF 50V B
C2622	AE001276	CS0YB04S3K	CC	0.0056UF 50V B
C2623	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2624	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C2625	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2626	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2627	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C2628	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C2629	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2632	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2633	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2634	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C2635	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2636	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2637	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2638	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2639	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2640	BZ110150	E50HU0101M	CE	100 UF 6.3V
C2641	BZ110150	E50HU0101M	CE	100 UF 6.3V
C2642	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2643	AE001543	E50HU0470M	CE	47 UF 6.3V
C2644	AE001543	E50HU0470M	CE	47 UF 6.3V
C2645	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2646	AE001543	E50HU0470M	CE	47 UF 6.3V
C2647	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2648	AE002756	CS0YF0415Z	CC	0.1 UF 50V F

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
C2654	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C2655	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C2657	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2658	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2659	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2660	AE001729	CS0PCH412J	CC	100 PF 50V CH
C3001	AE000838	CS0PB0N16K	CC	1 UF 10V B
C3002	AE000838	CS0PB0N16K	CC	1 UF 10V B
C3004	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C3005	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C3006	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C3007	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3008	79091302	CS0YB04Q3K	CC	0.0047UF 50V B
C3009	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3010	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C3013	BZ110263	E50HU2220M	CE	22 UF 16 V
C3014	AE004690	CS0YCH4G2J	CC	180 PF 50V CH
C3015	AE001760	CS0YCH4W2J	CC	820 PF 50V CH
C3016	AE001543	E50HU0470M	CE	47 UF 6.3V
C3017	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C3018	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C3019	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3020	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C3021	AE001544	E50HU3100M	CE	10 UF 25 V
C3022	AE001758	CS0YCH4Q2J	CC	470 PF 50V CH
C3023	BZ110189	E02LU0471M	CE	470 UF 6.3V
C3024	AE001752	CS0YCH4B1J	CC	12 PF 50V CH
C3025	AE001753	CS0YCH4E1J	CC	15 PF 50V CH
C3027	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C3029	AE001543	E50HU0470M	CE	47 UF 6.3V
C3030	AE001763	CS0YF0N16Z	CC	1 UF 10V F
C3031	AE001745	CS0YB04E3K	CC	0.0015UF 50V B
C3032	AD301762	E50HU52R2M	CE	2.2 UF 50V
C3033	BZ110190	E02LU2221M	CE	220 UF 16V
C3034	AE001763	CS0YF0N16Z	CC	1 UF 10V F
C3036	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C3038	AE001763	CS0YF0N16Z	CC	1 UF 10V F
C3040	AE001763	CS0YF0N16Z	CC	1 UF 10V F
C3041	AE001745	CS0YB04E3K	CC	0.0015UF 50V B
C3044	AE001752	CS0YCH4B1J	CC	12 PF 50V CH
C3045	AE000958	E50HU5R47M	CE	0.47 UF 50V
C3049	AE001751	CS0YCH412J	CC	100 PF 50V CH
C3050	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C3052	BZ110263	E50HU2220M	CE	22 UF 16 V
C3053	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3061	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C3065	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C3066	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C4001	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4002	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4003	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4004	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4005	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4006	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4007	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4008	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4009	AE000272	E50HU2470M	CE	47 UF 16V
C4010	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4011	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4012	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4013	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4014	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4015	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4016	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4017	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4018	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4019	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4020	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4021	AE001768	E50HU0221M	CE	220 UF 6.3V
C4022	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4023	AE001275	CS0PF0415Z	CC	0.1 UF 50V F

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C4024	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4025	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4026	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4027	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4028	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4029	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4030	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4031	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C4032	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4033	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4034	AE004237	CS0PCH450C	CC	5 PF 50V CH
C4035	AE004238	CS0PCH4F1J	CC	16 PF 50V CH
C4036	AE001741	CS0YB0215K	CC	0.1 UF 16V B
C4037	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4038	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C4039	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4040	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4041	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4045	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4046	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4047	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4050	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4052	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4053	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4062	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4063	AE001768	E50HU0221M	CE	220 UF 6.3V
C4064	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4065	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4066	AE000838	CS0PB0N16K	CC	1 UF 10V B
C4067	AE001543	E50HU0470M	CE	47 UF 6.3V
C4068	AE001543	E50HU0470M	CE	47 UF 6.3V
C4069	AE001543	E50HU0470M	CE	47 UF 6.3V
C4070	AE001543	E50HU0470M	CE	47 UF 6.3V
C4071	AE001543	E50HU0470M	CE	47 UF 6.3V
C4072	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4073	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4074	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4075	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4076	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4077	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4078	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4079	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4080	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4081	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4082	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C4083	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4084	AE001543	E50HU0470M	CE	47 UF 6.3V
C4085	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4086	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4088	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4089	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4090	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4091	AE001751	CS0YCH412J	CC	100 PF 50V CH
C4092	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4093	AE001751	CS0YCH412J	CC	100 PF 50V CH
C4094	AE001751	CS0YCH412J	CC	100 PF 50V CH
C4095	AE001743	CS0YB0414K	CC	0.01 UF 50V B
C4096	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4097	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4098	AE001750	CS0YCH411D	CC	10 PF 50V CH
C4099	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C8003	AE001544	E50HU3100M	CE	10 UF 25 V
C8005	BZ110189	E02LU0471M	CE	470 UF 6.3V
C8008	AE001745	CS0YB04E3K	CC	0.0015UF 50V B
C8009	AE001745	CS0YB04E3K	CC	0.0015UF 50V B
C8010	AE001544	E50HU3100M	CE	10 UF 25 V
C8011	AE001768	E50HU0221M	CE	220 UF 6.3V
C8013	BZ110188	E50HU5100M	CE	10 UF 50V
C8014	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C8015	AE001768	E50HU0221M	CE	220 UF 6.3V
C8020	AE001729	CS0PCH412J	CC	100 PF 50V CH

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			CAPACITORS	
C8021	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C8022	BZ210177	E02LU2470M	CE	47 UF 16V
C8023	AE001748	CS0YB04H4K	CC	0.022 UF 50V B
C8024	BZ210177	E02LU2470M	CE	47 UF 16V
C8025	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C8028	AE001751	CS0YCH412J	CC	100 PF 50V CH
C8031	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8032	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8033	AE001756	CS0YCH4H2J	CC	220 PF 50V CH
C8034	BZ110143	E02LU0221M	CE	220 UF 6.3V
C8035	AD301762	E50HU52R2M	CE	2.2 UF 50V
C8036	AD301762	E50HU52R2M	CE	2.2 UF 50V
C8037	AD300666	E50HU5220M	CE	22 UF 50 V
C8038	BZ110205	E02LU5220M	CE	22 UF 50V
C8039	79091097	E50HU2101M	CE	100 UF 16 V
C8040	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8041	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C8042	AE001544	E50HU3100M	CE	10 UF 25 V
C8043	79091245	CS0YCH4L2J	CC	330 PF 50V CH
C8044	79091245	CS0YCH4L2J	CC	330 PF 50V CH
C8045	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8047	79091245	CS0YCH4L2J	CC	330 PF 50V CH
C8048	79091245	CS0YCH4L2J	CC	330 PF 50V CH
C8050	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8051	AE000337	E02LU5330M	CE	33 UF 50V
C8054	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C8055	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C8056	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C8057	AE002756	CS0YF0415Z	CC	0.1 UF 50V F
C8058	AE001750	CS0YCH411D	CC	10 PF 50V CH
C8059	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8060	AE001750	CS0YCH411D	CC	10 PF 50V CH
C8061	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8062	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8063	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8104	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8105	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8106	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8107	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8108	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8109	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8110	AE001751	CS0YCH412J	CC	100 PF 50V CH
C8111	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8112	AE001757	CS0YCH4L1J	CC	33 PF 50V CH
C8113	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8114	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8115	AE001752	CS0YCH4B1J	CC	12 PF 50V CH
C8119	BZ110150	E50HU0101M	CE	100 UF 6.3V
C8120	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8121	AE001544	E50HU3100M	CE	10 UF 25 V
C8122	AE001742	CS0YB0413K	CC	0.001 UF 50V B
C8124	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
C8125	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8126	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8127	AE001754	CS0YCH4E2J	CC	150 PF 50V CH
			DIODES	
D501	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D502	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D503	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D504	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D505	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D506	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D507	BZ410007	D23TGP15J0	DIODE,SILICON	RGP15J-G23
D508	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D509	BZ410103	D2WXGP10J0	DIODE,RECTIFIER	RGP10J-EIC
⚠D510	BZ410113	D97U02201B	DIODE,ZENER	MTZJ22B T-77
⚠D511	BZ410115	D2LKB340L0	DIODE,SCHOTTKY	SB340L-6737
D512	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D513	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D514	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
⚠D515	BZ410033	D28T21DQN4	DIODE,SCHOTTKY	21DQ04N-TA2B1

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Location No.	TSB P/N	Reference No.	Description	
			DIODES	
D516	BZ410020	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D518	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D519	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
⚠D520	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D522	AD300075	D28TELS6N6	DIODE,RECTIFIER	10ELS6N-TA1B2
⚠D523	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D524	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D526	AD302208	D97U03R31B	DIODE,ZENER	MTZJ3.3B T-77
⚠D527	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D528	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D601	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D602	AE001703	0021E5Q212	LED	LTL-1CHGT-002A
D656	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D685	AE001703	0021E5Q212	LED	LTL-1CHGT-002A
D2601	BZ410121	DDARDS1200	DIODE,SILICON	KDS120RTK
D3001	AD301638	0010E00330	INFRARED LED	LTE-3271T-012A-O
D3002	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3007	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3009	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8001	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8004	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8005	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8006	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8111	BZ410119	DDDRL41480	DIODE,SILICON	MCL4148
D8112	BZ410119	DDDRL41480	DIODE,SILICON	MCL4148
			ICS	
IC101	AD301643	I03F3206M0	IC	LA71206M-MPB
⚠IC501	AE002834	I0CJ9AILP0	IC	TL431AILP
⚠IC502	BZ611089	I1KA98R09A	IC	KIA78R09API
⚠IC503	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC701	AE004692	I03F670BM0	IC	LA72670BM-L-MPB-E
IC2301	AE003581	I03F065650	IC	LA6565-TE-L-E
IC2601	AE002837	ICQK067080	IC	ZR36708TQC
IC3001	AE004693	I54F50148A	IC	OEC0148A
IC3003	AD301641	I9UF032310	IC	PST3231NR
IC3099	AE004736	A2D807X015	INIT DATA	
IC4001	AE003586	ICQK06762V	IC	ZR36762PQCG_V
IC4002	AD301772	I5HJ002BF0	IC	S-24C02BFJ-TB
IC4003	AE003583	I0BF97KWM0	IC	SI-3007KWM-TL
IC4005	AE002726	IF3J00HGT7	IC	HY57V641620HGT-7
IC4007	AE002836	ICMJ0800A8	IC	SST39VF800A-70-4C-EK-D
IC8001	AE001295	I0QJ045800	IC	NJM4580M(TE1)
IC8002	AD301988	I0UF015010	IC	MM1501XNRE
IC8005	AD301988	I0UF015010	IC	MM1501XNRE
IC8102	AE003584	I17F017530	IC	PCM1753DBQR
			TRANSISTORS	
Q101	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q102	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q103	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q104	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q105	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q107	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q109	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q301	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
⚠Q501	AE002251	T25F035630	FET	2SK3563(ORION_Q)
⚠Q502	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
⚠Q503	BZ510105	TCAT03209Y	TRANSISTOR,SILICON	KTC3209_Y-AT
⚠Q504	BZ510077	TAAT012714	TRANSISTOR,SILICON	KTA1271_Y-AT
⚠Q505	BZ510059	TD3T012070	TRANSISTOR,SILICON	2SD1207(S,T)-AE
Q506	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
⚠Q507	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q509	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
⚠Q510	BZ510059	TD3T012070	TRANSISTOR,SILICON	2SD1207(S,T)-AE
Q513	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q514	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q651	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q652	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q653	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q654	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q655	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q656	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.	Description	
			TRANSISTORS	
Q657	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q658	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q659	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q660	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q661	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q662	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q663	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q664	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q665	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q666	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q2601	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q2602	AE003592	T67J048TL0	TRANSISTOR,SILICON	2SA2048TL
Q2603	BZ510113	T27T030180	FET	2SK3018
Q2604	BZ510113	T27T030180	FET	2SK3018
Q2605	BZ510113	T27T030180	FET	2SK3018
Q3001	BZ410107	0002700690	PHOTO COUPLER	RPI-303
Q3002	BZ410107	0002700690	PHOTO COUPLER	RPI-303
Q3003	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q3004	BZ410106	0002700680	PHOTO COUPLER	RPI-352C40N
Q3005	BZ410106	0002700680	PHOTO COUPLER	RPI-352C40N
Q3006	BZ410097	0000M00390	PHOTO TRANSISTOR	ST-304L
Q3007	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3008	BZ410097	0000M00390	PHOTO TRANSISTOR	ST-304L
Q8001	BZ510109	TCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8002	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q8003	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8004	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q8005	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8006	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8007	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q8008	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8009	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8010	BZ510081	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q8011	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8012	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
			COILS &TRANSFORMERS	
L101	AE004672	031626010R	COIL,BIAS OSC	1626010
L102	BZ310041	02167F101J	COIL	100 UH
L301	BZ310039	02167F220J	COIL	22 UH
⚠L501	AE004671	029X000117	COIL,LINE FILTER	SS11VL-05230
L505	BZ310039	02167F220J	COIL	22 UH
L506	BZ310091	021W7A220K	COIL	22 UH
L701	BZ310183	021LA6220J	COIL	22 UH
L702	BZ310183	021LA6220J	COIL	22 UH
L703	BZ310039	02167F220J	COIL	22 UH
L704	BZ310039	02167F220J	COIL	22 UH
L705	BZ310039	02167F220J	COIL	22 UH
L3002	BZ310091	021W7A220K	COIL	22 UH
L3003	AE000773	021LA6120J	COIL	12 UH
L4001	BZ310191	02167F2R2J	COIL	2.2 UH
L8001	BZ310147	021LA6R33M	COIL	0.33 UH
L8002	BZ310147	021LA6R33M	COIL	0.33 UH
L8008	AE002183	021LA6470J	COIL	47 UH
L8102	AE000828	02167F1R0K	COIL	1 UH
L8103	AE000828	02167F1R0K	COIL	1 UH
L8104	AE000828	02167F1R0K	COIL	1 UH
L8105	AE000828	02167F1R0K	COIL	1 UH
⚠T501	AE004673	0481291244	TRANSFORMER,SWITCHING	81291244
			JACKS	
J601	AE002109	060J401096	RCA JACK	MTJ-032-04B-01-FE_LF
J602	AE002109	060J401096	RCA JACK	MTJ-032-04B-01-FE_LF
J603	AE002110	060J421035	RCA JACK	MTJ-032-04A-01-FE_LF
J8001	AE002758	060J411031	RCA JACK	MSP-213V1-432_NI_LF
J8002	AE002759	060J431020	RCA JACK	MSP-213V2-432_NI_LF
J8006	AE002760	060J411033	RCA JACK	MSP-213V1-732_NI_LF
J8007	AE002761	060J411032	RCA JACK	MSP-213V1-652_NI_LF
J8008	AE002813	063D700008	JACK	MDC-070V-B_LF
			SWITCHES	
SW601	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW602	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW603	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R

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Location No.	TSB P/N	Reference No.	Description	
			SWITCHES	
SW604	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW605	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW685	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW686	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW687	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW689	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW690	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW691	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW3001	BZ612016	0508S11001	SWITCH (LEAF)	LSA-1144EAU
SW8001	AD301546	0510Y24001	SWITCH SLIDE	SK42H01G9A
			P.C.BOARD ASSEMBLIES	
PCB010	AE004737	A2D807X010	PCB ASS'Y	VMD335A
PCB130	AE004686	A2D809X130	PCB ASS'Y	VMD343A
PCB260	AE004687	A2D809X260	PCB ASS'Y	VECA44B
PCB270	AE004738	A2D807X270	PCB ASS'Y	VECA42B
PCB280	AE004689	A2D809X280	PCB ASS'Y	VECA43B
			MISCELLANEOUS	
B501	BZ310122	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B701	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2601	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2602	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2603	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2604	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2605	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4001	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4002	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4003	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4005	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4006	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4007	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4008	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4010	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8001	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8002	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8003	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8103	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
BT601	AE000012	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
CD102	AE004682	122F041508	CORD,JUMPER	2F041508
⚠CD501	AE004681	1209414910	CORD,AC BUSH	9414910
CD601	AE001247	122W0C1004	CORD,JUMPER	2W0C1004
CD603	AE002982	WDL6006038	FLAT CABLE	AWM2468 AWG26 6C BLACK 60MM
CD681	AE002767	122H051202	CORD,JUMPER	2H051202
CP101	BZ614011	0697290620	CONNECTOR PCB SIDE	TOC-C09X-A1
CP102	AE004674	069J740599	CONNECTOR PCB SIDE	IMSA-9604S-04C
CP103	AD301649	067U002019	WIRE HOLDER	B2013H02-2P
CP501	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP601	AE000098	069EVC3020	CONNECTOR PCB SIDE	00_6232_012_102_800
CP602	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP603	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP651	AE004675	069J750589	CONNECTOR PCB SIDE	IMSA-9604S-05F
CP652	AE001241	069WVC001A	CONNECTOR PCB SIDE	TOC-G12X-A1
CP681	AE001711	069J750019	CONNECTOR PCB SIDE	IMSA-9604S-05Z13
CD4002	AE004678	06CU2B1101	CORD CONNECTOR	CU2B1101
CD6002	AE001243	06CPL02006	CABLE	CPL02006
CD6003	AE001712	06CPBA2003	CORD,RCA PIN	TD-020301-3
CD8001	AE004683	122F0E1001	CORD,JUMPER	2F0E1001
CP2601	AE003571	069GYOT119	CONNECTOR PCB SIDE	09-5000-024-001-001
CP2602	AE004391	069EV53010	CONNECTOR PCB SIDE	00_6232_005_006_800
CP2603	AE003570	069EV63010	CONNECTOR PCB SIDE	00_6232_006_006_800
CP3001	BZ614289	06972C0010	CONNECTOR PCB SIDE	TMC-J12P-B2
CP8001	AE004677	069J7E0599	CONNECTOR PCB SIDE	IMSA-9604S-14C
CP8101	AE004676	069J7E0589	CONNECTOR PCB SIDE	IMSA-9604S-14F
⚠F501	AE001715	081PC2R505	FUSE	51MS025L
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR4001	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4002	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4003	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4004	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4005	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E

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Location No.	TSB P/N	Reference No.	Description	
			MISCELLANEOUS	
NR4006	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4007	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4008	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
OS601	AE001713	077Q037002	REMOTE RECEIVER	PIC-37143TH5
OS8001	AE000830	07AQ000009	OPTICAL DEVICE	OFTG038101
TM601	AE001296	076D0HL010	TRANSMITTER	ORV202N18030
TU301	AE004670	0162300042	RF UNIT	115-V-H035ARE
V651	AE002768	0040E34003	LED DISPLAY	LTG-0366AM-J
X101	AE001717	100DT3R528	CRYSTAL	HC-49/U
X3001	AE004679	100GT01006	CRYSTAL	B10000C001
X4001	AD301803	100BT02701	CRYSTAL	HC-49U/S

RESISTOR

RC...................	CARBON RESISTOR

CAPACITORS

CC...................	CERAMIC CAPACITOR
CE...................	ALUMI ELECTROLYTIC CAPACITOR
CP...................	POLYESTER CAPACITOR
CPP..................	POLYPROPYLENE CAPACITOR
CPL..................	PLASTIC CAPACITOR
CMP...................	METAL POLYESTER CAPACITOR
CMPL................	METAL PLASTIC CAPACITOR
CMPP................	METAL POLYPROPYLENE CAPACITOR

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.	Description	
			RESISTORS	
R101	AE002152	R803R9561J	RC	560 OHM 1/16W
R102	AE001784	R803R9103J	RC	10K OHM 1/16W
R103	AE001784	R803R9103J	RC	10K OHM 1/16W
R105	BZ210119	R002T4102J	RC	1K OHM 1/4W
R106	AE002533	R803R9681J	RC	680 OHM 1/16W
R107	AE001895	R803R9392J	RC	3.9K OHM 1/16W
R108	AE001891	R803R9223J	RC	22K OHM 1/16W
R109	BZ210119	R002T4102J	RC	1K OHM 1/4W
R110	AE001805	R803R9822J	RC	8.2K OHM 1/16W
R111	AE001805	R803R9822J	RC	8.2K OHM 1/16W
R112	AE001282	R803R9334J	RC	330K OHM 1/16W
R113	AE001890	R803R9221J	RC	220 OHM 1/16W
R114	AE000851	R803R9203J	RC	20K OHM 1/16W
R115	AE002154	R803R9821J	RC	820 OHM 1/16W
R116	AE002145	R803R9153J	RC	15K OHM 1/16W
R117	AE001801	R803R9682J	RC	6.8K OHM 1/16W
R119	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R122	AE001785	R803R9104J	RC	100K OHM 1/16W
R123	BZ210126	R002T4222J	RC	2.2K OHM 1/4W
R124	AE001806	R803R9823J	RC	82K OHM 1/16W
R126	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R127	AE001802	R803R9684J	RC	680K OHM 1/16W
R129	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R131	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R132	AE001893	R803R9332J	RC	3.3K OHM 1/16W
R133	AE001805	R803R9822J	RC	8.2K OHM 1/16W
R136	AE001891	R803R9223J	RC	22K OHM 1/16W
R137	AE001007	R002T4123J	RC	12K OHM 1/4W
R138	AE001891	R803R9223J	RC	22K OHM 1/16W
R139	AE001788	R803R9123J	RC	12K OHM 1/16W
R140	BZ210126	R002T4222J	RC	2.2K OHM 1/4W
R141	AE001783	R803R9102J	RC	1K OHM 1/16W
R142	AE002154	R803R9821J	RC	820 OHM 1/16W
R143	AE001783	R803R9102J	RC	1K OHM 1/16W
R144	BZ210125	R002T4224J	RC	220K OHM 1/4W
R301	AE002150	R803R9333J	RC	33K OHM 1/16W
R302	AE001783	R803R9102J	RC	1K OHM 1/16W
R304	AE001783	R803R9102J	RC	1K OHM 1/16W
R305	BZ210119	R002T4102J	RC	1K OHM 1/4W
R306	79091142	R803R9220J	RC	22 OHM 1/16W
⚠R501	BZ210219	R0G3K2335K	RC	3.3M OHM 1/2W
⚠R502	BZ210039	R3X181010J	R,METAL OXIDE	1 OHM 1W
⚠R503	BZ210206	R002T2155J	RC	1.5M OHM 1/2W
⚠R504	AE000145	R002T2561J	RC	560 OHM 1/2W
R505	AE002237	R002T4684J	RC	680K OHM 1/4W
R506	AE001774	R002T2105J	RC	1M OHM 1/2W
R507	AE001784	R803R9103J	RC	10K OHM 1/16W
R508	AD301203	R002T4101J	RC	100 OHM 1/4W
R509	AD301203	R002T4101J	RC	100 OHM 1/4W
R511	AE001299	R803R9564J	RC	560K OHM 1/16W
⚠R512	AE001779	R3X181683J	R,METAL OXIDE	68K OHM 1W
R513	AE000934	R002T2391J	RC	390 OHM 1/2W
R514	AE000350	R002T2221J	RC	220 OHM 1/2W
R515	AE001792	R803R9273J	RC	27K OHM 1/16W
⚠R516	BZ210190	R63581R22J	R,FUSE	0.22 OHM 1W
⚠R517	BZ210180	R002T2102J	RC	1K OHM 1/2W
R518	79091139	R803R9151J	RC	150 OHM 1/16W
R519	AE001783	R803R9102J	RC	1K OHM 1/16W
R520	AE001795	R803R9332F	RC	3.3K OHM 1/16W
R521	AE002151	R803R9391J	RC	390 OHM 1/16W
R522	AE001795	R803R9332F	RC	3.3K OHM 1/16W
R523	AE001801	R803R9682J	RC	6.8K OHM 1/16W
R524	AD301203	R002T4101J	RC	100 OHM 1/4W
R527	BZ210135	R002T4221J	RC	220 OHM 1/4W
R529	AE002237	R002T4684J	RC	680K OHM 1/4W
R530	AE002236	R002T4474J	RC	470K OHM 1/4W
R531	AE001784	R803R9103J	RC	10K OHM 1/16W
R532	AE001784	R803R9103J	RC	10K OHM 1/16W
R533	BZ210135	R002T4221J	RC	220 OHM 1/4W
R534	BZ210192	R002T4223J	RC	22K OHM 1/4W
R535	BZ210192	R002T4223J	RC	22K OHM 1/4W

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.		Description
			RESISTORS	
R536	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R547	AE001785	R803R9104J	RC	100K OHM 1/16W
R549	BZ210164	R002T4104J	RC	100K OHM 1/4W
R552	AE001781	R803R9101J	RC	100 OHM 1/16W
R553	BZ210118	R002T4473J	RC	47K OHM 1/4W
R554	BZ210182	R002T4103J	RC	10K OHM 1/4W
R601	BZ210107	R002T4750J	RC	75 OHM 1/4W
R602	BZ210060	R002T4332J	RC	3.3K OHM 1/4W
R603	AE001778	R002T4622J	RC	6.2K OHM 1/4W
R604	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R605	AD301203	R002T4101J	RC	100 OHM 1/4W
R606	AE001555	R002T4563J	RC	56K OHM 1/4W
R607	BZ210135	R002T4221J	RC	220 OHM 1/4W
R661	AE002154	R803R9821J	RC	820 OHM 1/16W
R662	AE003232	R803R9181J	RC	180 OHM 1/16W
R663	AE003232	R803R9181J	RC	180 OHM 1/16W
R664	AE002154	R803R9821J	RC	820 OHM 1/16W
R665	AE003232	R803R9181J	RC	180 OHM 1/16W
R666	AE003232	R803R9181J	RC	180 OHM 1/16W
R667	AE003232	R803R9181J	RC	180 OHM 1/16W
R668	AE003232	R803R9181J	RC	180 OHM 1/16W
R669	AE002154	R803R9821J	RC	820 OHM 1/16W
R670	AE003232	R803R9181J	RC	180 OHM 1/16W
R671	AE002154	R803R9821J	RC	820 OHM 1/16W
R672	AE003232	R803R9181J	RC	180 OHM 1/16W
R673	AE003232	R803R9181J	RC	180 OHM 1/16W
R674	AE003232	R803R9181J	RC	180 OHM 1/16W
R675	AE002154	R803R9821J	RC	820 OHM 1/16W
R683	AE002872	R803R9271J	RC	270 OHM 1/16W
R685	AE001776	R002T4133J	RC	13K OHM 1/4W
R686	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R687	BZ210162	R002T4682J	RC	6.8K OHM 1/4W
R689	BZ210060	R002T4332J	RC	3.3K OHM 1/4W
R690	BZ210202	R002T4333J	RC	33K OHM 1/4W
R691	BZ210125	R002T4224J	RC	220K OHM 1/4W
R692	AD301301	R002T4152J	RC	1.5K OHM 1/4W
R701	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R702	BZ210118	R002T4473J	RC	47K OHM 1/4W
R703	AE001007	R002T4123J	RC	12K OHM 1/4W
R704	BZ210119	R002T4102J	RC	1K OHM 1/4W
R706	BZ210118	R002T4473J	RC	47K OHM 1/4W
R707	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R708	AE001892	R803R9331J	RC	330 OHM 1/16W
R710	AE004696	R002T4394J	RC	390K OHM 1/4W
R711	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R712	BZ210118	R002T4473J	RC	47K OHM 1/4W
R713	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R714	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R715	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R716	AE001892	R803R9331J	RC	330 OHM 1/16W
R717	AE001892	R803R9331J	RC	330 OHM 1/16W
R718	AD301430	R002T4225J	RC	2.2M OHM 1/4W
R719	BZ210118	R002T4473J	RC	47K OHM 1/4W
R720	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R721	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R722	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R723	AE001007	R002T4123J	RC	12K OHM 1/4W
R724	BZ210119	R002T4102J	RC	1K OHM 1/4W
R725	79091400	R803R9393J	RC	39K OHM 1/16W
R726	AE002147	R803R9182J	RC	1.8K OHM 1/16W
R727	AE001796	R803R9471J	RC	470 OHM 1/16W
R728	AD301203	R002T4101J	RC	100 OHM 1/4W
R729	AD301203	R002T4101J	RC	100 OHM 1/4W
R731	AE001783	R803R9102J	RC	1K OHM 1/16W
R2301	AE001783	R803R9102J	RC	1K OHM 1/16W
R2303	AE001793	R803R92R2J	RC	2.2 OHM 1/16W
R2304	AE001793	R803R92R2J	RC	2.2 OHM 1/16W
R2305	AE001792	R803R9273J	RC	27K OHM 1/16W
R2306	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R2307	AE001792	R803R9273J	RC	27K OHM 1/16W
R2308	AE001784	R803R9103J	RC	10K OHM 1/16W

ELECTRICAL REPLACEMENT PARTS LIST
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Location No.	TSB P/N	Reference No.		Description
			RESISTORS	
R2309	AE004090	R803R9471F	RC	470 OHM 1/16W
R2310	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2312	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2313	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2314	AE002907	R803R9562F	RC	5.6K OHM 1/16W
R2315	AE001784	R803R9103J	RC	10K OHM 1/16W
R2316	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R2317	AE001891	R803R9223J	RC	22K OHM 1/16W
R2318	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R2319	AE001792	R803R9273J	RC	27K OHM 1/16W
R2320	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2321	AE001792	R803R9273J	RC	27K OHM 1/16W
R2322	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2323	AE004247	R803R91R2J	RC	1.2 OHM 1/16W
R2324	AE001783	R803R9102J	RC	1K OHM 1/16W
R2325	AE001893	R803R9332J	RC	3.3K OHM 1/16W
R2326	AE001895	R803R9392J	RC	3.9K OHM 1/16W
R2327	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2328	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2329	AE004247	R803R91R2J	RC	1.2 OHM 1/16W
R2330	AE001783	R803R9102J	RC	1K OHM 1/16W
R2331	AE004090	R803R9471F	RC	470 OHM 1/16W
R2334	AE001784	R803R9103J	RC	10K OHM 1/16W
R2335	AE000849	R803R9152J	RC	1.5K OHM 1/16W
R2336	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2337	AE001784	R803R9103J	RC	10K OHM 1/16W
R2338	AE001788	R803R9123J	RC	12K OHM 1/16W
R2339	AE001887	R803R9105J	RC	1M OHM 1/16W
R2601	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2602	AE000850	R803R9185J	RC	1.8M OHM 1/16W
R2603	AE000847	R803R9133F	RC	13K OHM 1/16W
R2604	AE000852	R803R9273F	RC	27K OHM 1/16W
R2605	AE000845	R803R9103F	RC	10K OHM 1/16W
R2607	AE001787	R803R9122J	RC	1.2K OHM 1/16W
R2608	AE001787	R803R9122J	RC	1.2K OHM 1/16W
R2609	AE001787	R803R9122J	RC	1.2K OHM 1/16W
R2610	AE000853	R803R9512F	RC	5.1K OHM 1/16W
R2611	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2612	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2613	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2614	AE000846	R803R9123F	RC	12K OHM 1/16W
R2615	AE001886	R803R9100J	RC	10 OHM 1/16W
R2616	AE001783	R803R9102J	RC	1K OHM 1/16W
R2617	AE001783	R803R9102J	RC	1K OHM 1/16W
R2618	AE001886	R803R9100J	RC	10 OHM 1/16W
R2619	AE001781	R803R9101J	RC	100 OHM 1/16W
R2620	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2621	AE001781	R803R9101J	RC	100 OHM 1/16W
R2622	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2623	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2624	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2635	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2643	AE001783	R803R9102J	RC	1K OHM 1/16W
R2644	AE001790	R803R9222J	RC	2.2K OHM 1/16W
R2645	AE001783	R803R9102J	RC	1K OHM 1/16W
R2646	AE001790	R803R9222J	RC	2.2K OHM 1/16W
R2647	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2648	AE000848	R803R9133J	RC	13K OHM 1/16W
R2649	AE001781	R803R9101J	RC	100 OHM 1/16W
R2650	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2651	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R2652	AE001781	R803R9101J	RC	100 OHM 1/16W
R2653	AE001781	R803R9101J	RC	100 OHM 1/16W
R3001	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R3002	AE001775	R002T4121J	RC	120 OHM 1/4W
R3003	AE001893	R803R9332J	RC	3.3K OHM 1/16W
R3004	AE001282	R803R9334J	RC	330K OHM 1/16W
R3006	AE001797	R803R9473J	RC	47K OHM 1/16W
R3007	AE001801	R803R9682J	RC	6.8K OHM 1/16W
R3008	AE001783	R803R9102J	RC	1K OHM 1/16W
R3009	AD302345	R803R9472J	RC	4.7K OHM 1/16W

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RESISTORS

Location No.	TSB P/N	Reference No.		Description
R3010	AE001784	R803R9103J	RC	10K OHM 1/16W
R3011	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3012	AE001555	R002T4563J	RC	56K OHM 1/4W
R3014	AE001898	R803R9563J	RC	56K OHM 1/16W
R3015	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3016	AE000356	R002T4271J	RC	270 OHM 1/4W
R3017	AE002152	R803R9561J	RC	560 OHM 1/16W
R3019	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3020	AE002152	R803R9561J	RC	560 OHM 1/16W
R3021	AE001783	R803R9102J	RC	1K OHM 1/16W
R3022	AE002146	R803R9154J	RC	150K OHM 1/16W
R3025	AE001796	R803R9471J	RC	470 OHM 1/16W
R3026	AE002149	R803R9274J	RC	270K OHM 1/16W
R3027	AE002145	R803R9153J	RC	15K OHM 1/16W
R3028	BZ210118	R002T4473J	RC	47K OHM 1/4W
R3030	AE001799	R803R9562J	RC	5.6K OHM 1/16W
R3031	AE001887	R803R9105J	RC	1M OHM 1/16W
R3032	AE001784	R803R9103J	RC	10K OHM 1/16W
R3033	AE001784	R803R9103J	RC	10K OHM 1/16W
R3034	AE001887	R803R9105J	RC	1M OHM 1/16W
R3035	AE001784	R803R9103J	RC	10K OHM 1/16W
R3036	AE001784	R803R9103J	RC	10K OHM 1/16W
R3037	AE001797	R803R9473J	RC	47K OHM 1/16W
R3038	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R3043	AE001896	R803R9474J	RC	470K OHM 1/16W
R3044	AE001893	R803R9332J	RC	3.3K OHM 1/16W
R3045	AE001893	R803R9332J	RC	3.3K OHM 1/16W
R3046	AE001784	R803R9103J	RC	10K OHM 1/16W
R3047	AE001784	R803R9103J	RC	10K OHM 1/16W
R3049	AE001797	R803R9473J	RC	47K OHM 1/16W
R3050	AD301203	R002T4101J	RC	100 OHM 1/4W
R3051	AE002148	R803R9183J	RC	18K OHM 1/16W
R3053	AE001896	R803R9474J	RC	470K OHM 1/16W
R3055	AE001891	R803R9223J	RC	22K OHM 1/16W
R3056	AE001783	R803R9102J	RC	1K OHM 1/16W
R3057	AE001891	R803R9223J	RC	22K OHM 1/16W
R3062	AE001783	R803R9102J	RC	1K OHM 1/16W
R3063	AE001783	R803R9102J	RC	1K OHM 1/16W
R3083	AE002150	R803R9333J	RC	33K OHM 1/16W
R3087	AE002150	R803R9333J	RC	33K OHM 1/16W
R4001	AE001894	R803R9391F	RC	390 OHM 1/16W
R4002	AE001899	R803R9750F	RC	75 OHM 1/16W
R4003	AE001899	R803R9750F	RC	75 OHM 1/16W
R4004	AE002153	R803R9820F	RC	82 OHM 1/16W
R4005	AE001899	R803R9750F	RC	75 OHM 1/16W
R4008	AE001781	R803R9101J	RC	100 OHM 1/16W
R4012	AE001887	R803R9105J	RC	1M OHM 1/16W
R4014	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4016	AE001781	R803R9101J	RC	100 OHM 1/16W
R4018	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4019	AE001794	R803R9330J	RC	33 OHM 1/16W
R4020	AE001794	R803R9330J	RC	33 OHM 1/16W
R4021	AE001794	R803R9330J	RC	33 OHM 1/16W
R4022	AE001784	R803R9103J	RC	10K OHM 1/16W
R4023	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4024	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4025	AE001890	R803R9221J	RC	220 OHM 1/16W
R4026	AE001890	R803R9221J	RC	220 OHM 1/16W
R4027	AE001890	R803R9221J	RC	220 OHM 1/16W
R4031	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4035	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4036	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4037	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4038	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4039	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4040	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4041	AD302345	R803R9472J	RC	4.7K OHM 1/16W
R4042	AE001781	R803R9101J	RC	100 OHM 1/16W
R4043	AE001784	R803R9103J	RC	10K OHM 1/16W
R4044	AE001784	R803R9103J	RC	10K OHM 1/16W
R4045	AD302345	R803R9472J	RC	4.7K OHM 1/16W

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Location No.	TSB P/N	Reference No.	Description
			RESISTORS
R4046	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R4047	AE001794	R803R9330J	RC 33 OHM 1/16W
R4048	AE001797	R803R9473J	RC 47K OHM 1/16W
R4049	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R4050	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R4051	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R4052	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R4053	AE001783	R803R9102J	RC 1K OHM 1/16W
R4054	AE001783	R803R9102J	RC 1K OHM 1/16W
R4056	AE001781	R803R9101J	RC 100 OHM 1/16W
R4057	AE001781	R803R9101J	RC 100 OHM 1/16W
R4058	AE001890	R803R9221J	RC 220 OHM 1/16W
R4059	AE001781	R803R9101J	RC 100 OHM 1/16W
R4060	AE001783	R803R9102J	RC 1K OHM 1/16W
R4061	AE001893	R803R9332J	RC 3.3K OHM 1/16W
R4064	AE001781	R803R9101J	RC 100 OHM 1/16W
R4068	AE001781	R803R9101J	RC 100 OHM 1/16W
R4070	AE001797	R803R9473J	RC 47K OHM 1/16W
R4071	79091139	R803R9151J	RC 150 OHM 1/16W
R4072	AE001805	R803R9822J	RC 8.2K OHM 1/16W
R4073	AE001781	R803R9101J	RC 100 OHM 1/16W
R8001	AE001803	R803R9750J	RC 75 OHM 1/16W
R8002	AE001893	R803R9332J	RC 3.3K OHM 1/16W
R8003	AE000849	R803R9152J	RC 1.5K OHM 1/16W
R8004	BZ210202	R002T4333J	RC 33K OHM 1/4W
R8005	AE001890	R803R9221J	RC 220 OHM 1/16W
R8006	AE001800	R803R9680J	RC 68 OHM 1/16W
R8007	AE001785	R803R9104J	RC 100K OHM 1/16W
R8008	AE001796	R803R9471J	RC 470 OHM 1/16W
R8009	AE000353	R002T2471J	RC 470 OHM 1/2W
R8010	AE001800	R803R9680J	RC 68 OHM 1/16W
R8011	AD301203	R002T4101J	RC 100 OHM 1/4W
R8012	AE001796	R803R9471J	RC 470 OHM 1/16W
R8014	AE001781	R803R9101J	RC 100 OHM 1/16W
R8015	AE001781	R803R9101J	RC 100 OHM 1/16W
R8016	AE001790	R803R9222J	RC 2.2K OHM 1/16W
R8017	AE001790	R803R9222J	RC 2.2K OHM 1/16W
R8021	AE001783	R803R9102J	RC 1K OHM 1/16W
R8022	AE001783	R803R9102J	RC 1K OHM 1/16W
R8023	AE001893	R803R9332J	RC 3.3K OHM 1/16W
R8024	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R8025	AE001783	R803R9102J	RC 1K OHM 1/16W
R8026	AE001896	R803R9474J	RC 470K OHM 1/16W
R8027	AD302345	R803R9472J	RC 4.7K OHM 1/16W
R8028	AE001784	R803R9103J	RC 10K OHM 1/16W
R8029	AE001784	R803R9103J	RC 10K OHM 1/16W
R8030	AE001796	R803R9471J	RC 470 OHM 1/16W
R8031	AE001796	R803R9471J	RC 470 OHM 1/16W
R8032	79091139	R803R9151J	RC 150 OHM 1/16W
R8033	AE000849	R803R9152J	RC 1.5K OHM 1/16W
R8034	AE000849	R803R9152J	RC 1.5K OHM 1/16W
R8035	AE001784	R803R9103J	RC 10K OHM 1/16W
R8036	AE000487	R002T4560J	RC 56 OHM 1/4W
R8037	AE001784	R803R9103J	RC 10K OHM 1/16W
R8038	AE001788	R803R9123J	RC 12K OHM 1/16W
R8039	AE001788	R803R9123J	RC 12K OHM 1/16W
R8040	AE001797	R803R9473J	RC 47K OHM 1/16W
R8041	AE001784	R803R9103J	RC 10K OHM 1/16W
R8042	AE001784	R803R9103J	RC 10K OHM 1/16W
R8043	AE001784	R803R9103J	RC 10K OHM 1/16W
R8044	AE001797	R803R9473J	RC 47K OHM 1/16W
R8045	AE001785	R803R9104J	RC 100K OHM 1/16W
R8046	AE001785	R803R9104J	RC 100K OHM 1/16W
R8047	AE001784	R803R9103J	RC 10K OHM 1/16W
R8048	AE001784	R803R9103J	RC 10K OHM 1/16W
R8049	AE001793	R803R92R2J	RC 2.2 OHM 1/16W
R8054	AE001790	R803R9222J	RC 2.2K OHM 1/16W
R8056	79091139	R803R9151J	RC 150 OHM 1/16W
R8059	BZ210122	R002T4472J	RC 4.7K OHM 1/4W
R8101	AE001783	R803R9102J	RC 1K OHM 1/16W
R8112	AE001796	R803R9471J	RC 470 OHM 1/16W

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Location No.	TSB P/N	Reference No.		Description
RESISTORS				
R8113	AE001796	R803R9471J	RC	470 OHM 1/16W
CAPACITORS				
C101	AE004695	P232W1333J	CMP	0.033 UF 100V MMTS
C102	AE001544	E50HU3100M	CE	10 UF 25 V
C104	AE001768	E50HU0221M	CE	220 UF 6.3V
C105	BZ110263	E50HU2220M	CE	22 UF 16 V
C106	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C107	AE002126	CS0PB04E4K	CC	0.015 UF 50V B
C108	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C109	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C110	BZ210177	E02LU2470M	CE	47 UF 16V
C112	AE001768	E50HU0221M	CE	220 UF 6.3V
C114	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C115	AE001769	E50HU1330M	CE	33 UF 10 V
C116	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C117	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C118	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C119	AE001544	E50HU3100M	CE	10 UF 25 V
C120	AE000838	CS0PB0N16K	CC	1 UF 10V B
C121	AE001273	CS0PB04K3K	CC	0.0027UF 50V B
C122	AE002125	CS0PB04B3K	CC	0.0012UF 50V B
C123	AE001770	E50HU54R7M	CE	4.7 UF 50V
C124	AE000838	CS0PB0N16K	CC	1 UF 10V B
C125	AE001274	CS0PCH4N2J	CC	390 PF 50V CH
C126	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C127	AE001731	CS0PCH4G2J	CC	180 PF 50V CH
C129	AE000838	CS0PB0N16K	CC	1 UF 10V B
C131	BZ110150	E50HU0101M	CE	100 UF 6.3V
C132	AE000838	CS0PB0N16K	CC	1 UF 10V B
C133	AE000838	CS0PB0N16K	CC	1 UF 10V B
C134	AE000838	CS0PB0N16K	CC	1 UF 10V B
C135	AE001767	E02LU5R22M	CE	0.22 UF 50V
C136	BZ110229	E02LU4220M	CE	22 UF 35V
C137	AE000838	CS0PB0N16K	CC	1 UF 10V B
C138	AD300788	E02LU5010M	CE	1 UF 50V
C139	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C140	AE002129	CS0PCH4E1J	CC	15 PF 50V CH
C141	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C142	AE000272	E50HU2470M	CE	47 UF 16V
C143	AE000838	CS0PB0N16K	CC	1 UF 10V B
C144	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C145	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C146	AE000838	CS0PB0N16K	CC	1 UF 10V B
C147	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C148	AE000838	CS0PB0N16K	CC	1 UF 10V B
C151	AE000838	CS0PB0N16K	CC	1 UF 10V B
C152	AE000272	E50HU2470M	CE	47 UF 16V
C154	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C156	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C158	AE000838	CS0PB0N16K	CC	1 UF 10V B
C162	AE000838	CS0PB0N16K	CC	1 UF 10V B
C165	AE002132	CS0PF04Q4Z	CC	0.047 UF 50V F
C166	AE003843	CS0PB02U4K	CC	0.068 UF 16V B
C169	AE002132	CS0PF04Q4Z	CC	0.047 UF 50V F
C174	AE001543	E50HU0470M	CE	47 UF 6.3V
C302	AE001729	CS0PCH412J	CC	100 PF 50V CH
C303	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C307	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C308	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C309	BZ110143	E02LU0221M	CE	220 UF 6.3V
C313	AE001544	E50HU3100M	CE	10 UF 25 V
C315	AE001544	E50HU3100M	CE	10 UF 25 V
C317	AE001729	CS0PCH412J	CC	100 PF 50V CH
C318	AE001544	E50HU3100M	CE	10 UF 25 V
⚠C501	BZ110119	E02LF2222M	CE	2200 UF 16V
⚠C502	BZ110025	P2122B224M	CMP	0.22 UF 275V ECQUL
⚠C505	AD301535	E02LU2101M	CE	100 UF 16V
C506	AE000336	E02LU1101M	CE	100 UF 10V
C508	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C509	AE004694	P1M4T0183J	CP	0.018 UF 50V
C510	AE002824	CS0PB04H4K	CC	0.022 UF 50V B

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Location No.	TSB P/N	Reference No.		Description
⚠C511	BZ110186	E62QFC470M	CE	47 UF 200V
C512	AE001544	E50HU3100M	CE	10 UF 25 V
C513	BZ110175	C03L0R7H2K	CC	220 PF 2KV R
⚠C514	AD301535	E02LU2101M	CE	100 UF 16V
⚠C515	AE001722	C0J0B0514K	CC	0.01 UF 500V B
⚠C516	BZ110256	CC3LE0MH3M	CC	0.0022UF 250V
⚠C518	AE004691	E61FF0222D	CE	2200 UF 6.3V
⚠C519	BZ110076	E02LF1222M	CE	2200 UF 10V
C520	AE001737	CS0PF0N16Z	CC	1 UF 10V F
⚠C521	AD301535	E02LU2101M	CE	100 UF 16V
⚠C522	BZ110205	E02LU5220M	CE	22 UF 50V
C524	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C525	BZ110172	C03L0R7U2K	CC	680 PF 2KV R
⚠C526	BZ110256	CC3LE0MH3M	CC	0.0022UF 250V
C527	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C530	AD301535	E02LU2101M	CE	100 UF 16V
C531	AE001723	C0JTB05S2K	CC	560 PF 500V B
C534	AE001737	CS0PF0N16Z	CC	1 UF 10V F
⚠C540	BZ110186	E62QFC470M	CE	47 UF 200V
C544	AE000838	CS0PB0N16K	CC	1 UF 10V B
C601	AE001544	E50HU3100M	CE	10 UF 25 V
C604	BZ110150	E50HU0101M	CE	100 UF 6.3V
C701	AE000838	CS0PB0N16K	CC	1 UF 10V B
C702	AE000838	CS0PB0N16K	CC	1 UF 10V B
C703	AE000838	CS0PB0N16K	CC	1 UF 10V B
C704	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C705	AE000838	CS0PB0N16K	CC	1 UF 10V B
C706	AE001734	CS0PCH4U2J	CC	680 PF 50V CH
C707	AE000838	CS0PB0N16K	CC	1 UF 10V B
C708	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C709	AE000838	CS0PB0N16K	CC	1 UF 10V B
C710	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C711	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C712	AE001770	E50HU54R7M	CE	4.7 UF 50V
C713	AE001770	E50HU54R7M	CE	4.7 UF 50V
C714	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C715	AE000838	CS0PB0N16K	CC	1 UF 10V B
C716	AE001770	E50HU54R7M	CE	4.7 UF 50V
C717	AE000838	CS0PB0N16K	CC	1 UF 10V B
C718	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C719	AE001770	E50HU54R7M	CE	4.7 UF 50V
C720	AE001544	E50HU3100M	CE	10 UF 25 V
C721	AE001544	E50HU3100M	CE	10 UF 25 V
C722	AD301535	E02LU2101M	CE	100 UF 16V
C723	AE000838	CS0PB0N16K	CC	1 UF 10V B
C724	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C725	BZ110263	E50HU2220M	CE	22 UF 16 V
C726	AE001770	E50HU54R7M	CE	4.7 UF 50V
C727	AD301762	E50HU52R2M	CE	2.2 UF 50V
C728	BZ110263	E50HU2220M	CE	22 UF 16 V
C730	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C731	BZ110150	E50HU0101M	CE	100 UF 6.3V
C732	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C733	AE001737	CS0PF0N16Z	CC	1 UF 10V F
C735	79091097	E50HU2101M	CE	100 UF 16 V
C739	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C740	AE001544	E50HU3100M	CE	10 UF 25 V
C741	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C742	AD301762	E50HU52R2M	CE	2.2 UF 50V
C743	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C744	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C746	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C747	AE000838	CS0PB0N16K	CC	1 UF 10V B
C748	AE000838	CS0PB0N16K	CC	1 UF 10V B
C749	AE001734	CS0PCH4U2J	CC	680 PF 50V CH
C750	AE001544	E50HU3100M	CE	10 UF 25 V
C751	BZ110263	E50HU2220M	CE	22 UF 16 V
C752	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C753	AE001770	E50HU54R7M	CE	4.7 UF 50V
C754	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C755	AE001544	E50HU3100M	CE	10 UF 25 V

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			CAPACITORS	
C756	BZ110150	E50HU0101M	CE	100 UF 6.3V
C757	AE001728	CS0PB04Q3K	CC	0.0047UF 50V B
C758	AE001770	E50HU54R7M	CE	4.7 UF 50V
C759	BZ110263	E50HU2220M	CE	22 UF 16 V
C760	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C762	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C763	BZ110263	E50HU2220M	CE	22 UF 16 V
C764	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C765	BZ110150	E50HU0101M	CE	100 UF 6.3V
C766	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C767	AE001770	E50HU54R7M	CE	4.7 UF 50V
C768	AE001728	CS0PB04Q3K	CC	0.0047UF 50V B
C771	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C2301	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2302	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2303	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2304	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C2305	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C2306	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2307	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2308	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2309	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2310	BZ110034	E50HU1101M	CE	100 UF 10 V
C2311	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2312	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2313	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2314	BZ110034	E50HU1101M	CE	100 UF 10 V
C2603	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2604	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2605	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2606	AE001727	CS0PB04H3K	CC	0.0022UF 50V B
C2607	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C2608	AE001543	E50HU0470M	CE	47 UF 6.3V
C2609	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2610	AE000837	CS0PB04U3K	CC	0.0068UF 50V B
C2611	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2612	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C2613	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C2614	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2615	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2616	AE002831	CS0PCH4Q2J	CC	470 PF 50V CH
C2617	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2618	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C2619	AE002832	CS0PCH4S2J	CC	560 PF 50V CH
C2620	AE000836	CS0PB04S3K	CC	0.0056UF 50V B
C2621	AE000836	CS0PB04S3K	CC	0.0056UF 50V B
C2622	AE000836	CS0PB04S3K	CC	0.0056UF 50V B
C2623	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2624	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2625	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2626	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2627	AE000835	CS0PB03L4K	CC	0.033 UF 25V B
C2628	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2629	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2632	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2633	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2634	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2635	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C2636	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2637	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2638	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2639	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2640	BZ110150	E50HU0101M	CE	100 UF 6.3V
C2641	BZ110150	E50HU0101M	CE	100 UF 6.3V
C2642	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2643	AE001543	E50HU0470M	CE	47 UF 6.3V
C2644	AE001543	E50HU0470M	CE	47 UF 6.3V
C2645	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2646	AE001543	E50HU0470M	CE	47 UF 6.3V
C2647	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C2648	AE001275	CS0PF0415Z	CC	0.1 UF 50V F

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
C2654	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C2655	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C2657	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2658	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2659	AE001729	CS0PCH412J	CC	100 PF 50V CH
C2660	AE001729	CS0PCH412J	CC	100 PF 50V CH
C3001	AE000838	CS0PB0N16K	CC	1 UF 10V B
C3002	AE000838	CS0PB0N16K	CC	1 UF 10V B
C3004	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C3005	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C3006	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C3007	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3008	AE001728	CS0PB04Q3K	CC	0.0047UF 50V B
C3009	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3010	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C3013	BZ110263	E50HU2220M	CE	22 UF 16 V
C3014	AE001731	CS0PCH4G2J	CC	180 PF 50V CH
C3015	AE001735	CS0PCH4W2J	CC	820 PF 50V CH
C3016	AE001543	E50HU0470M	CE	47 UF 6.3V
C3017	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C3018	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C3019	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3020	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C3021	AE001544	E50HU3100M	CE	10 UF 25 V
C3022	AE002831	CS0PCH4Q2J	CC	470 PF 50V CH
C3023	BZ110189	E02LU0471M	CE	470 UF 6.3V
C3024	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C3025	AE002129	CS0PCH4E1J	CC	15 PF 50V CH
C3027	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C3029	AE001543	E50HU0470M	CE	47 UF 6.3V
C3030	AE001737	CS0PF0N16Z	CC	1 UF 10V F
C3031	AE002822	CS0PB04E3K	CC	0.0015UF 50V B
C3032	AD301762	E50HU52R2M	CE	2.2 UF 50V
C3033	BZ110190	E02LU2221M	CE	220 UF 16V
C3034	AE001737	CS0PF0N16Z	CC	1 UF 10V F
C3036	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C3038	AE001737	CS0PF0N16Z	CC	1 UF 10V F
C3040	AE001737	CS0PF0N16Z	CC	1 UF 10V F
C3041	AE002822	CS0PB04E3K	CC	0.0015UF 50V B
C3044	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C3045	AE000958	E50HU5R47M	CE	0.47 UF 50V
C3049	AE001729	CS0PCH412J	CC	100 PF 50V CH
C3050	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C3052	BZ110263	E50HU2220M	CE	22 UF 16 V
C3053	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C3061	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C3065	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C3066	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4001	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4002	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4003	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4004	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4005	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4006	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4007	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4008	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4009	AE000272	E50HU2470M	CE	47 UF 16V
C4010	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4011	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4012	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4013	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4014	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4015	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4016	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4017	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4018	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4019	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4020	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4021	AE001768	E50HU0221M	CE	220 UF 6.3V
C4022	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4023	AE001275	CS0PF0415Z	CC	0.1 UF 50V F

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
C4024	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4025	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4026	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4027	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4028	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4029	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4030	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4031	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4032	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4033	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4034	AE004237	CS0PCH450C	CC	5 PF 50V CH
C4035	AE004238	CS0PCH4F1J	CC	16 PF 50V CH
C4036	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C4037	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4038	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4039	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4040	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4041	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4045	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4046	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4047	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4050	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4052	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4053	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4062	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4063	AE001768	E50HU0221M	CE	220 UF 6.3V
C4064	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4065	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4066	AE000838	CS0PB0N16K	CC	1 UF 10V B
C4067	AE001543	E50HU0470M	CE	47 UF 6.3V
C4068	AE001543	E50HU0470M	CE	47 UF 6.3V
C4069	AE001543	E50HU0470M	CE	47 UF 6.3V
C4070	AE001543	E50HU0470M	CE	47 UF 6.3V
C4071	AE001543	E50HU0470M	CE	47 UF 6.3V
C4072	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4073	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4074	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4075	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4076	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4077	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4078	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4079	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4080	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4081	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4082	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C4083	BZ110150	E50HU0101M	CE	100 UF 6.3V
C4084	AE001543	E50HU0470M	CE	47 UF 6.3V
C4085	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4086	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4088	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4089	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4090	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4091	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4092	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4093	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4094	AE001729	CS0PCH412J	CC	100 PF 50V CH
C4095	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4096	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C4097	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C4098	AE002825	CS0PCH411D	CC	10 PF 50V CH
C4099	AE001726	CS0PB0414K	CC	0.01 UF 50V B
C8003	AE001544	E50HU3100M	CE	10 UF 25 V
C8005	BZ110189	E02LU0471M	CE	470 UF 6.3V
C8008	AE002822	CS0PB04E3K	CC	0.0015UF 50V B
C8009	AE002822	CS0PB04E3K	CC	0.0015UF 50V B
C8010	AE001544	E50HU3100M	CE	10 UF 25 V
C8011	AE001768	E50HU0221M	CE	220 UF 6.3V
C8013	BZ110188	E50HU5100M	CE	10 UF 50V
C8014	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8015	AE001768	E50HU0221M	CE	220 UF 6.3V
C8020	AE001729	CS0PCH412J	CC	100 PF 50V CH

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Location No.	TSB P/N	Reference No.		Description
			CAPACITORS	
C8021	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8022	BZ210177	E02LU2470M	CE	47 UF 16V
C8023	AE002824	CS0PB04H4K	CC	0.022 UF 50V B
C8024	BZ210177	E02LU2470M	CE	47 UF 16V
C8025	AE002124	CS0PB0315K	CC	0.1 UF 25V B
C8028	AE001729	CS0PCH412J	CC	100 PF 50V CH
C8031	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8032	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8033	AE001733	CS0PCH4H2J	CC	220 PF 50V CH
C8034	BZ110143	E02LU0221M	CE	220 UF 6.3V
C8035	AD301762	E50HU52R2M	CE	2.2 UF 50V
C8036	AD301762	E50HU52R2M	CE	2.2 UF 50V
C8037	AD300666	E50HU5220M	CE	22 UF 50 V
C8038	BZ110205	E02LU5220M	CE	22 UF 50V
C8039	79091097	E50HU2101M	CE	100 UF 16 V
C8040	AE001770	E50HU54R7M	CE	4.7 UF 50V
C8041	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8042	AE001544	E50HU3100M	CE	10 UF 25 V
C8043	79091384	CS0PCH4L2J	CC	330 PF 50V CH
C8044	79091384	CS0PCH4L2J	CC	330 PF 50V CH
C8045	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8047	79091384	CS0PCH4L2J	CC	330 PF 50V CH
C8048	79091384	CS0PCH4L2J	CC	330 PF 50V CH
C8050	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8051	AE000337	E02LU5330M	CE	33 UF 50V
C8054	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C8055	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C8056	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C8057	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8058	AE002825	CS0PCH411D	CC	10 PF 50V CH
C8059	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8060	AE002825	CS0PCH411D	CC	10 PF 50V CH
C8061	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8062	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8063	BZ110187	E02LT0102M	CE	1000 UF 6.3V
C8104	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8105	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8106	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8107	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8108	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8109	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8110	AE001729	CS0PCH412J	CC	100 PF 50V CH
C8111	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8112	AE002830	CS0PCH4L1J	CC	33 PF 50V CH
C8113	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8114	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8115	AE003854	CS0PCH4B1J	CC	12 PF 50V CH
C8119	BZ110150	E50HU0101M	CE	100 UF 6.3V
C8120	AE001275	CS0PF0415Z	CC	0.1 UF 50V F
C8121	AE001544	E50HU3100M	CE	10 UF 25 V
C8122	AE001725	CS0PB0413K	CC	0.001 UF 50V B
C8124	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
C8125	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8126	AE000838	CS0PB0N16K	CC	1 UF 10V B
C8127	AE001730	CS0PCH4E2J	CC	150 PF 50V CH
			DIODES	
D501	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D502	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D503	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D504	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D505	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D506	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D507	BZ410007	D23TGP15J0	DIODE,SILICON	RGP15J-G23
D508	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D509	BZ410103	D2WXGP10J0	DIODE,RECTIFIER	RGP10J-EIC
⚠D510	BZ410113	D97U02201B	DIODE,ZENER	MTZJ22B T-77
⚠D511	BZ410115	D2LKB340L0	DIODE,SCHOTTKY	SB340L-6737
D512	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D513	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D514	AD300070	D97U01201B	DIODE,ZENER	MTZJ12B T-77
⚠D515	BZ410033	D28T21DQN4	DIODE,SCHOTTKY	21DQ04N-TA2B1

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Location No.	TSB P/N	Reference No.	Description	
			DIODES	
D516	BZ410020	D97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D518	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
⚠D519	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
⚠D520	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
⚠D522	AD300075	D28TELS6N6	DIODE,RECTIFER	10ELS6N-TA1B2
⚠D523	BZ410037	D97U03301B	DIODE,ZENER	MTZJ33B T-77
D524	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D526	AD302208	D97U03R31B	DIODE,ZENER	MTZJ3.3B T-77
⚠D527	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D528	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D601	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D602	AE001703	0021E5Q212	LED	LTL-1CHGT-002A
D656	BZ410085	D2WXN40050	DIODE,SILICON	1N4005-EIC
D685	AE001703	0021E5Q212	LED	LTL-1CHGT-002A
D2601	BZ410121	DDARDS1200	DIODE,SILICON	KDS120RTK
D3001	AD301638	0010E00330	INFRARED LED	LTE-3271T-012A-O
D3002	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3007	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D3009	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8001	BZ410022	D97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8004	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8005	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8006	BZ410006	D1VT001330	DIODE,SILICON	1SS133T-77
D8111	BZ410119	DDDRL41480	DIODE,SILICON	MCL4148
D8112	BZ410119	DDDRL41480	DIODE,SILICON	MCL4148
			ICS	
IC101	AD301643	I03F3206M0	IC	LA71206M-MPB
⚠IC501	AE002834	I0CJ9AILP0	IC	TL431AILP
⚠IC502	BZ611089	I1KA98R09A	IC	KIA78R09API
⚠IC503	AE002809	000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
IC701	AE004692	I03F670BM0	IC	LA72670BM-L-MPB-E
IC2301	AE003581	I03F065650	IC	LA6565-TE-L-E
IC2601	AE002837	ICQK067080	IC	ZR36708TQC
IC3001	AE004693	I54F50148A	IC	OEC0148A
IC3003	AD301641	I9UF032310	IC	PST3231NR
IC3099	AE004736	A2D807X015	INIT DATA	
IC4001	AE003586	ICQK06762V	IC	ZR36762PQCG_V
IC4002	AD301772	I5HJ002BF0	IC	S-24C02BFJ-TB
IC4003	AE003583	I0BF97KWM0	IC	SI-3007KWM-TL
IC4005	AE002726	IF3J00HGT7	IC	HY57V641620HGT-7
IC4007	AE002836	ICMJ0800A8	IC	SST39VF800A-70-4C-EK-D
IC8001	AE001295	I0QJ045800	IC	NJM4580M(TE1)
IC8002	AD301988	I0UF015010	IC	MM1501XNRE
IC8005	AD301988	I0UF015010	IC	MM1501XNRE
IC8102	AE003584	I17F017530	IC	PCM1753DBQR
			TRANSISTORS	
Q101	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q102	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q103	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q104	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q105	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q107	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q109	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q301	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
⚠Q501	AE002251	T25F035630	FET	2SK3563(ORION_Q)
⚠Q502	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
⚠Q503	BZ510105	TCAT03209Y	TRANSISTOR,SILICON	KTC3209_Y-AT
⚠Q504	BZ510077	TAAT012714	TRANSISTOR,SILICON	KTA1271_Y-AT
⚠Q505	BZ510059	TD3T012070	TRANSISTOR,SILICON	2SD1207(S,T)-AE
Q506	BZ510067	TNAAC05002	COMPOUND TRANSISTOR	KRC103SRTK
⚠Q507	BZ510070	TCAT032034	TRANSISTOR,SILICON	KTC3203_Y-AT
Q509	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
⚠Q510	BZ510059	TD3T012070	TRANSISTOR,SILICON	2SD1207(S,T)-AE
Q513	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q514	AE002626	T8YJ2412K0	TRANSISTOR,SILICON	2SC2412KT146 R,S
Q651	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q652	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q653	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q654	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q655	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q656	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146

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TRANSISTORS

Location No.	TSB P/N	Reference No.	Description	
Q657	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q658	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q659	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q660	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q661	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q662	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q663	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q664	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q665	BZ510108	TAAA1504SY	TRANSISTOR,SILICON	KTA1504S_Y_RTK
Q666	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q2601	BZ510112	T67J1036K0	TRANSISTOR,SILICON	2SA1036KT146
Q2602	AE003592	T67J048TL0	TRANSISTOR,SILICON	2SA2048TL
Q2603	BZ510113	T27T030180	FET	2SK3018
Q2604	BZ510113	T27T030180	FET	2SK3018
Q2605	BZ510113	T27T030180	FET	2SK3018
Q3001	BZ410107	0002700690	PHOTO COUPLER	RPI-303
Q3002	BZ410107	0002700690	PHOTO COUPLER	RPI-303
Q3003	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q3004	BZ410106	0002700680	PHOTO COUPLER	RPI-352C40N
Q3005	BZ410106	0002700680	PHOTO COUPLER	RPI-352C40N
Q3006	BZ410097	0000M00390	PHOTO TRANSISTOR	ST-304L
Q3007	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q3008	BZ410097	0000M00390	PHOTO TRANSISTOR	ST-304L
Q8001	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8002	BZ510045	TNYJD05001	COMPOUND TRANSISTOR	DTC144EKAT146
Q8003	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8004	BZ510073	TAATA12660	TRANSISTOR,SILICON	KTA1266-AT(Y,GR)
Q8005	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8006	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8007	BZ510026	TPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q8008	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8009	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK
Q8010	BZ510081	TPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q8011	BZ510021	TNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8012	BZ510109	TCAA3875SY	TRANSISTOR,SILICON	KTC3875S_Y_RTK

COILS &TRANSFORMERS

Location No.	TSB P/N	Reference No.	Description	
L101	AE004672	031626010R	COIL,BIAS OSC	1626010
L102	BZ310041	02167F101J	COIL	100 UH
L301	BZ310039	02167F220J	COIL	22 UH
⚠L501	AE004671	029X000117	COIL,LINE FILTER	SS11VL-05230
L505	BZ310039	02167F220J	COIL	22 UH
L506	BZ310091	021W7A220K	COIL	22 UH
L701	BZ310183	021LA6220J	COIL	22 UH
L702	BZ310183	021LA6220J	COIL	22 UH
L703	BZ310039	02167F220J	COIL	22 UH
L704	BZ310039	02167F220J	COIL	22 UH
L705	BZ310039	02167F220J	COIL	22 UH
L3002	BZ310091	021W7A220K	COIL	22 UH
L3003	AE000773	021LA6120J	COIL	12 UH
L4001	BZ310191	02167F2R2J	COIL	2.2 UH
L8001	BZ310147	021LA6R33M	COIL	0.33 UH
L8002	BZ310147	021LA6R33M	COIL	0.33 UH
L8008	AE002183	021LA6470J	COIL	47 UH
L8102	AE000828	02167F1R0K	COIL	1 UH
L8103	AE000828	02167F1R0K	COIL	1 UH
L8104	AE000828	02167F1R0K	COIL	1 UH
L8105	AE000828	02167F1R0K	COIL	1 UH
⚠T501	AE004673	0481291244	TRANSFORMER,SWITCHING	81291244

JACKS

Location No.	TSB P/N	Reference No.	Description	
J601	AE002109	060J401096	RCA JACK	MTJ-032-04B-01-FE_LF
J602	AE002109	060J401096	RCA JACK	MTJ-032-04B-01-FE_LF
J603	AE002110	060J421035	RCA JACK	MTJ-032-04A-01-FE_LF
J8001	AE002758	060J411031	RCA JACK	MSP-213V1-432_NI_LF
J8002	AE002759	060J431020	RCA JACK	MSP-213V2-432_NI_LF
J8006	AE002760	060J411033	RCA JACK	MSP-213V1-732_NI_LF
J8007	AE002761	060J411032	RCA JACK	MSP-213V1-652_NI_LF
J8008	AE002813	063D700008	JACK	MDC-070V-B_LF

SWITCHES

Location No.	TSB P/N	Reference No.	Description	
SW601	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW602	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW603	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R

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Location No.	TSB P/N	Reference No.	Description	
			SWITCHES	
SW604	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW605	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW685	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW686	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW687	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW689	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW690	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW691	AE001707	0504R01T38	SWITCH TACT	EVQ11L05R
SW3001	BZ612016	0508S11001	SWITCH (LEAF)	LSA-1144EAU
SW8001	AD301546	0510Y24001	SWITCH SLIDE	SK42H01G9A
			P.C.BOARD ASSEMBLIES	
PCB010	AE004987	A2D808H010	PCB ASS'Y	VMD335A
PCB130	AE004977	A2D808H130	PCB ASS'Y	VMD343A
PCB260	AE004687	A2D809X260	PCB ASS'Y	VECA44B
PCB270	AE004738	A2D807X270	PCB ASS'Y	VECA42B
PCB280	AE004689	A2D809X280	PCB ASS'Y	VECA43B
			MISCELLANEOUS	
B501	BZ310122	024HT03563	CORE,BEADS	W4BRH3.5X6X1.0X2
B701	BZ310121	024HT03553	CORE,BEADS	W5RH3.5X5X1.0
B2601	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2602	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2603	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2604	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B2605	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4001	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4002	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4003	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4004	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4005	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4006	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4007	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4008	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B4010	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8001	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8002	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8003	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
B8103	BZ310186	024HC31022	CORE,BEADS	FCM2012H-102T04
BT601	AE000012	1412004008	BATTERY,MANGAN	R03(AB)E_2P_G
CD102	AE004682	122F041508	CORD,JUMPER	2F041508
⚠CD501	AE004681	1209414910	CORD,AC BUSH	9414910
CD601	AE001247	122W0C1004	CORD,JUMPER	2W0C1004
CD603	AE002982	WDL6006038	FLAT,CABLE	AWM2468 AWG26 6C BLACK 60MM
CD681	AE002767	122H051202	CORD,JUMPER	2H051202
CP101	BZ614011	0697290620	CONNECTOR PCB SIDE	TOC-C09X-A1
CP102	AE004674	069J740599	CONNECTOR PCB SIDE	IMSA-9604S-04C
CP103	AD301649	067U002019	WIRE HOLDER	B2013H02-2P
CP501	BZ614214	069S2B0629	CONNECTOR PCB SIDE	A2001WV2-11P
CP601	AE000098	069EVC3020	CONNECTOR PCB SIDE	00_6232_012_102_800
CP602	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP603	BZ614333	067U006049	WIRE HOLDER	B2013H02-6P
CP651	AE004675	069J750589	CONNECTOR PCB SIDE	IMSA-9604S-05F
CP652	AE001241	069WVC001A	CONNECTOR PCB SIDE	TOC-G12X-A1
CP681	AE001711	069J750019	CONNECTOR PCB SIDE	IMSA-9604S-05Z13
CD4002	AE004678	06CU2B1101	CORD CONNECTOR	CU2B1101
CD6002	AE001243	06CPL02006	CABLE	CPL02006
CD6003	AE001712	06CPBA2003	CORD,RCA PIN	TD-020301-3
CD8001	AE004683	122F0E1001	CORD,JUMPER	2F0E1001
CP2601	AE003571	069GYOT119	CONNECTOR PCB SIDE	09-5000-024-001-001
CP2602	AE004391	069EV53010	CONNECTOR PCB SIDE	00_6232_005_006_800
CP2603	AE003570	069EV63010	CONNECTOR PCB SIDE	00_6232_006_006_800
CP3001	BZ614289	06972C0010	CONNECTOR PCB SIDE	TMC-J12P-B2
CP8001	AE004677	069J7E0599	CONNECTOR PCB SIDE	IMSA-9604S-14C
CP8101	AE004676	069J7E0589	CONNECTOR PCB SIDE	IMSA-9604S-14F
⚠F501	AE001715	081PC2R505	FUSE	51MS025L
FH501	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	AE002634	06710T0009	HOLDER,FUSE	EYF-52BCY
NR4001	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4002	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4003	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4004	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4005	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E

ELECTRICAL REPLACEMENT PARTS LIST
(SD-392SCA)

MISCELLANEOUS

Location No.	TSB P/N	Reference No.	Description	
NR4006	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4007	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
NR4008	AE004680	110P4101M4	R,NETWORK	4D03WGJ0101T5E
OS601	AE001713	077Q037002	REMOTE RECEIVER	PIC-37143TH5
OS8001	AE000830	07AQ000009	OPTICAL DEVICE	OFTG038101
TM601	AE003295	076D0JM010	TRANSMITTER	
TU301	AE004670	0162300042	RF UNIT	115-V-H035ARE
V651	AE002768	0040E34003	LED DISPLAY	LTG-0366AM-J
X101	AE001717	100DT3R528	CRYSTAL	HC-49/U
X3001	AE004679	100GT01006	CRYSTAL	B10000C001
X4001	AD301803	100BT02701	CRYSTAL	HC-49U/S

RESISTOR

RC.................. CARBON RESISTOR

CAPACITORS

CC.................. CERAMIC CAPACITOR
CE.................. ALUMI ELECTROLYTIC CAPACITOR
CP.................. POLYESTER CAPACITOR
CPP................. POLYPROPYLENE CAPACITOR
CPL................. PLASTIC CAPACITOR
CMP.................. METAL POLYESTER CAPACITOR
CMPL................ METAL PLASTIC CAPACITOR
CMPP................ METAL POLYPROPYLENE CAPACITOR

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN

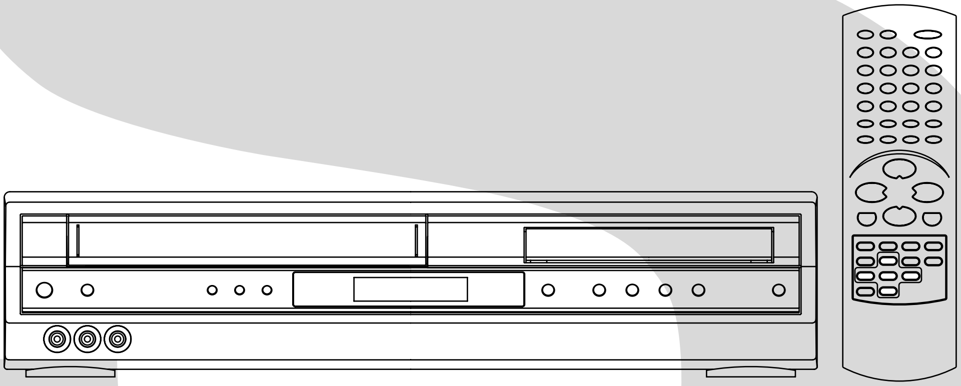
TOSHIBA

FILE NO. 810-200429

CIRCUIT DIAGRAMS

DVD VIDEO PLAYER & VIDEO CASSETTE RECORDER

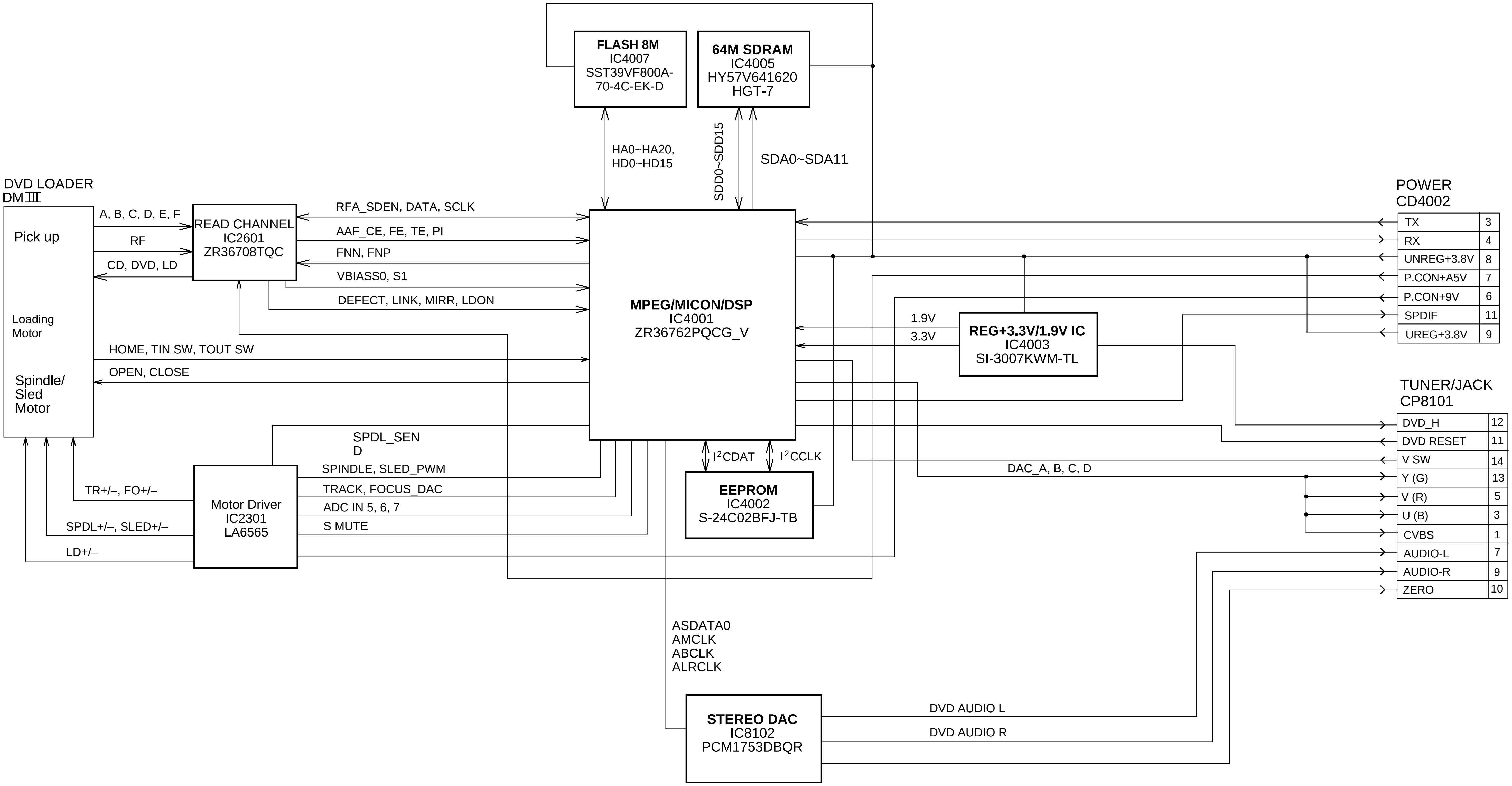
SD-V392SUA
SD-V392SCA



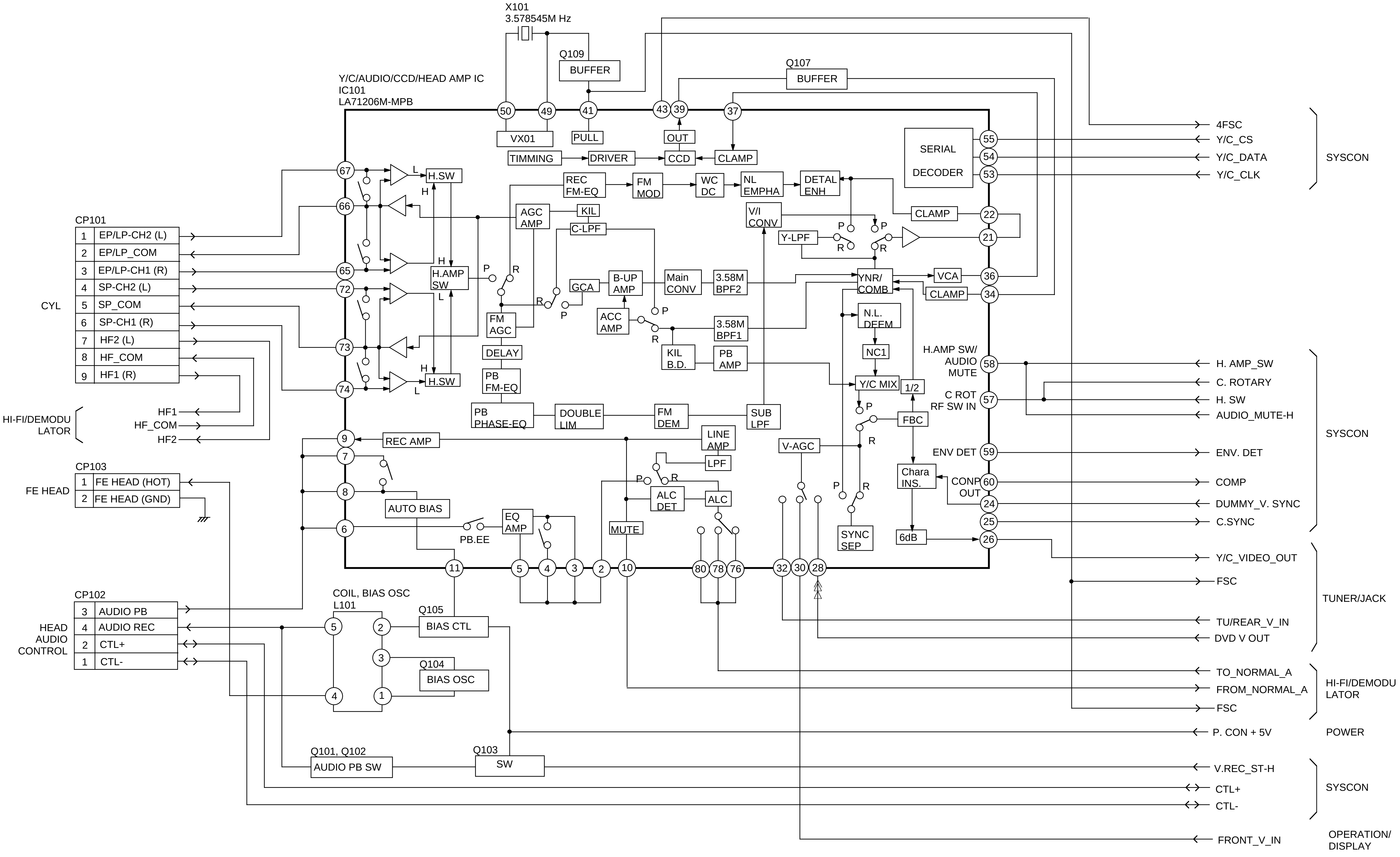
(SD-V392SUA)

DOCUMENT CREATED IN JAPAN, June, 2004

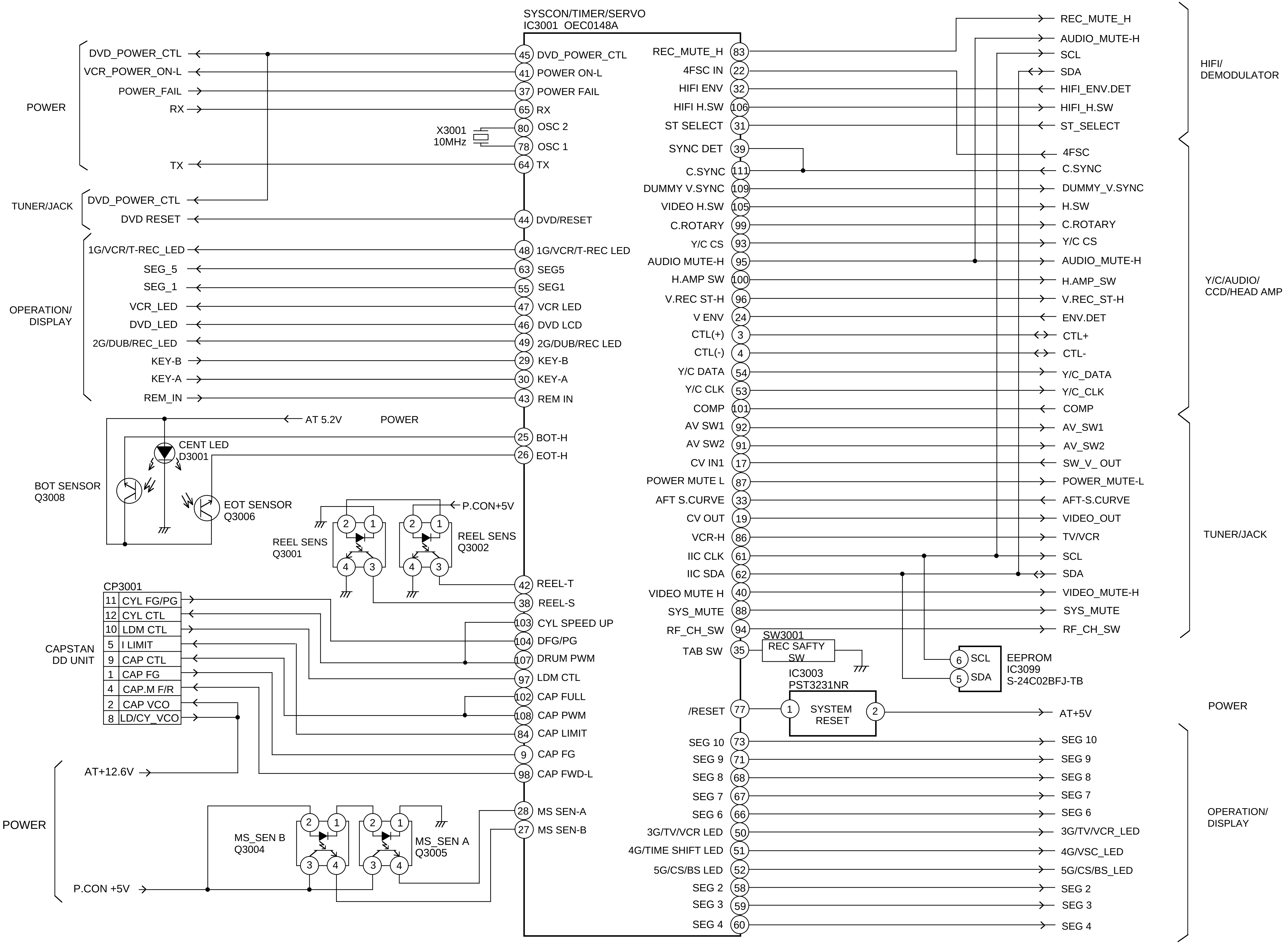
DVD BLOCK DIAGRAM


FLASH 8M
IC4007
SST39VF800A-
70-4C-EK-D
64M SDRAM
IC4005
HY57V641620
HGT-7
HA0~HA20,
HD0~HD15
SDD0~SDD15
SDA0~SDA11
DVD LOADER
DMⅢ
Pick up
Loading
Motor
Spindle/
Sled
Motor
A, B, C, D, E, F
RF
CD, DVD, LD
READ CHANNEL
IC2601
ZR36708TQC
RFA_SDEN, DATA, SCLK
AAF_CE, FE, TE, PI
FNN, FNP
VBIASS0, S1
DEFECT, LINK, MIRR, LDON
HOME, TIN SW, TOUT SW
OPEN, CLOSE
MPEG/MICON/DSP
IC4001
ZR36762PQCG_V
SPDL_SEN
D
SPINDLE, SLED_PWM
TRACK, FOCUS_DAC
ADC IN 5, 6, 7
S MUTE
TR+/–, FO+/–
SPDL+/–, SLED+/–
LD+/–
Motor Driver
IC2301
LA6565
I^2CDAT
I^2CCLK
EEPROM
IC4002
S-24C02BFJ-TB
1.9V
3.3V
REG+3.3V/1.9V IC
IC4003
SI-3007KWM-TL
POWER
CD4002
TX 3
RX 4
UNREG+3.8V 8
P.CON+A5V 7
P.CON+9V 6
SPDIF 11
UREG+3.8V 9
TUNER/JACK
CP8101
DVD_H 12
DVD RESET 11
V SW 14
Y (G) 13
V (R) 5
U (B) 3
CVBS 1
AUDIO-L 7
AUDIO-R 9
ZERO 10
DAC_A, B, C, D
ASDATA0
AMCLK
ABCLK
ALRCLK
STEREO DAC
IC8102
PCM1753DBQR
DVD AUDIO L
DVD AUDIO R

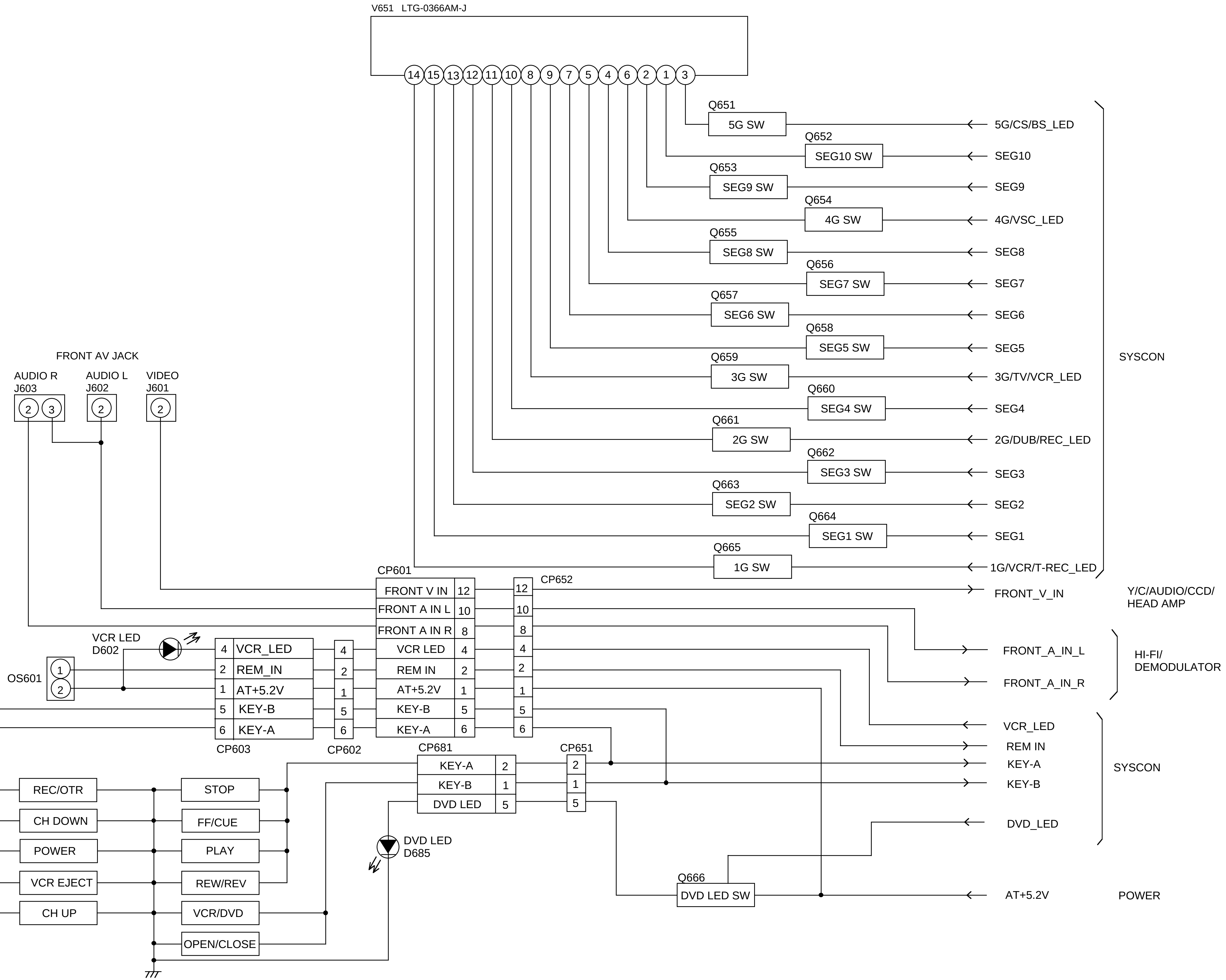
Y/C/AUDIO/CCD/HEAD AMP BLOCK DIAGRAM


X101
3.578545M Hz
Q109
BUFFER
Q107
BUFFER
Y/C/AUDIO/CCD/HEAD AMP IC
IC101
LA71206M-MPB
50
49
41
43
39
37
VX01
PULL
OUT
TIMMING
DRIVER
CCD
CLAMP
SERIAL
DECODER
55
54
53
4FSC
Y/C_CS
Y/C_DATA
Y/C_CLK
SYSCON
67
H.SW
L
H
REC
FM-EQ
FM
MOD
WC
DC
NL
EMPHA
DETAL
ENH
66
AGC
AMP
KIL
C-LPF
V/I
CONV
CLAMP
22
P
R
Y-LPF
21
CP101
1 EP/LP-CH2 (L)
2 EP/LP_COM
3 EP/LP-CH1 (R)
4 SP-CH2 (L)
5 SP_COM
6 SP-CH1 (R)
7 HF2 (L)
8 HF_COM
9 HF1 (R)
CYL
65
72
H.AMP
SW
GCA
B-UP
AMP
Main
CONV
3.58M
BPF2
YNR/
COMB
VCA
36
CLAMP
34
FM
AGC
ACC
AMP
3.58M
BPF1
N.L.
DEEM
73
DELAY
KIL
B.D.
PB
AMP
NC1
H.AMP SW/
AUDIO
MUTE
58
H. AMP_SW
C. ROTARY
74
PB
FM-EQ
Y/C MIX
1/2
C ROT
RF SW IN
57
H. SW
AUDIO_MUTE-H
HF1
HF_COM
HF2
HI-FI/DEMODU
LATOR
PB
PHASE-EQ
DOUBLE
LIM
FM
DEM
SUB
LPF
FBC
9
REC AMP
LINE
AMP
V-AGC
ENV DET
59
ENV. DET
SYSCON
7
LPF
CP103
1 FE HEAD (HOT)
2 FE HEAD (GND)
FE HEAD
8
ALC
DET
ALC
MUTE
Chara
INS.
COMP
OUT
60
COMP
24
DUMMY_V. SYNC
AUTO BIAS
6
PB.EE
EQ
AMP
SYNC
SEP
6dB
25
C.SYNC
26
Y/C_VIDEO_OUT
11
5
4
3
2
10
80
78
76
32
30
28
FSC
TUNER/JACK
CP102
3 AUDIO PB
4 AUDIO REC
2 CTL+
1 CTL-
HEAD
AUDIO
CONTROL
COIL, BIAS OSC
L101
Q105
BIAS CTL
Q104
BIAS OSC
5
2
3
4
1
TU/REAR_V_IN
DVD V OUT
TO_NORMAL_A
FROM_NORMAL_A
FSC
HI-FI/DEMODU
LATOR
P. CON + 5V
POWER
Q101, Q102
AUDIO PB SW
Q103
SW
V.REC_ST-H
CTL+
CTL-
SYSCON
FRONT_V_IN
OPERATION/
DISPLAY

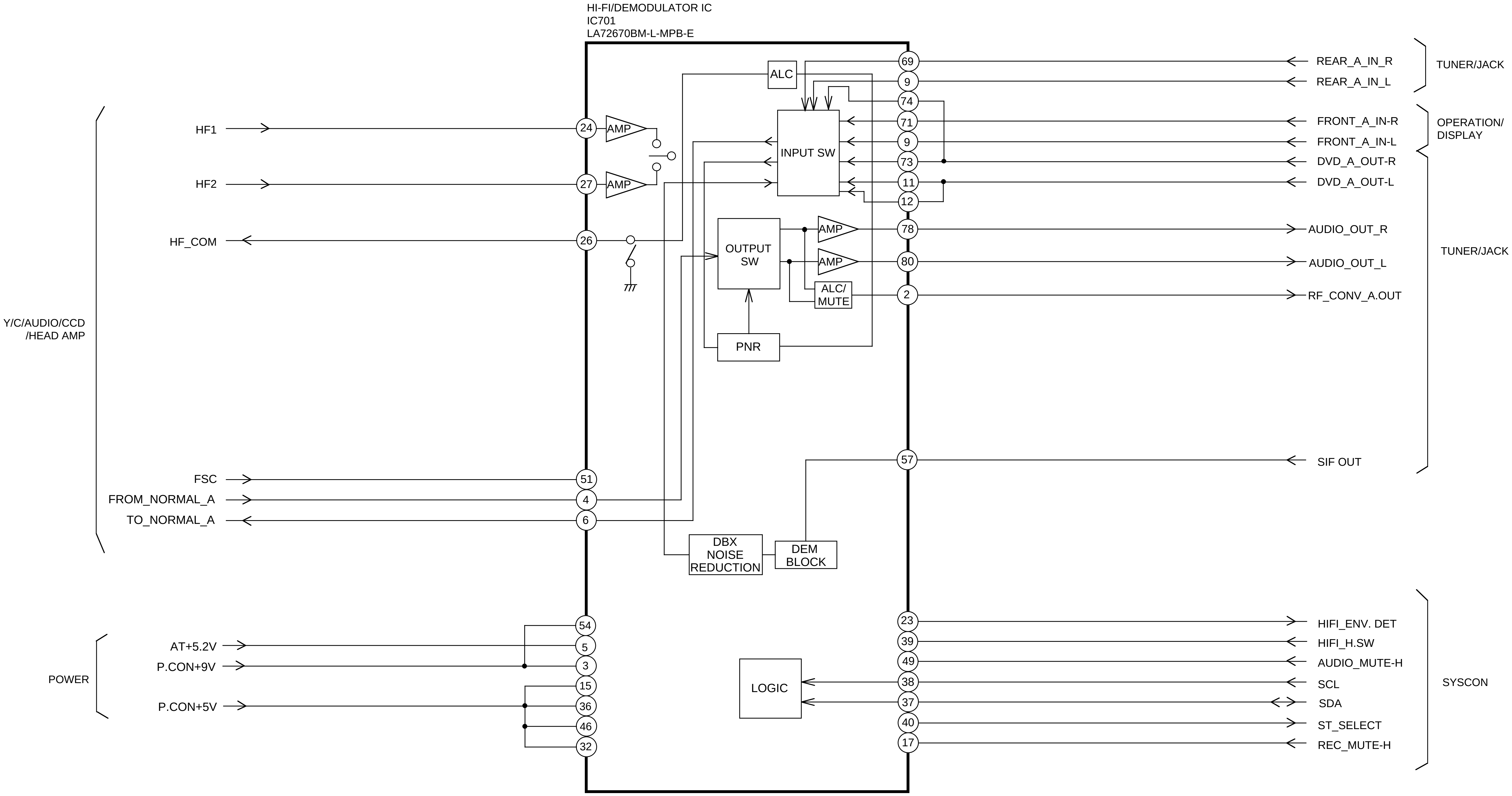
SYSTEM CONTROL BLOCK DIAGRAM


SYSCON/TIMER/SERVO
IC3001 OEC0148A
POWER
DVD_POWER_CTL
VCR_POWER_ON-L
POWER_FAIL
RX
TX
45 DVD_POWER_CTL
41 POWER ON-L
37 POWER FAIL
65 RX
80 OSC 2
78 OSC 1
64 TX
X3001
10MHz
TUNER/JACK
DVD_POWER_CTL
DVD RESET
44 DVD/RESET
OPERATION/
DISPLAY
1G/VCR/T-REC_LED
SEG_5
SEG_1
VCR_LED
DVD_LED
2G/DUB/REC_LED
KEY-B
KEY-A
REM_IN
48 1G/VCR/T-REC LED
63 SEG5
55 SEG1
47 VCR LED
46 DVD LCD
49 2G/DUB/REC LED
29 KEY-B
30 KEY-A
43 REM IN
AT 5.2V
POWER
25 BOT-H
26 EOT-H
CENT LED
D3001
BOT SENSOR
Q3008
EOT SENSOR
Q3006
P.CON+5V
REEL SENS
Q3001
REEL SENS
Q3002
42 REEL-T
38 REEL-S
CP3001
11 CYL FG/PG
12 CYL CTL
10 LDM CTL
5 I LIMIT
9 CAP CTL
1 CAP FG
4 CAP.M F/R
2 CAP VCO
8 LD/CY_VCO
CAPSTAN
DD UNIT
103 CYL SPEED UP
104 DFG/PG
107 DRUM PWM
97 LDM CTL
102 CAP FULL
108 CAP PWM
84 CAP LIMIT
9 CAP FG
98 CAP FWD-L
POWER
AT+12.6V
P.CON +5V
28 MS SEN-A
27 MS SEN-B
MS_SEN B
Q3004
MS_SEN A
Q3005
REC_MUTE_H 83
4FSC IN 22
HIFI ENV 32
HIFI H.SW 106
ST SELECT 31
SYNC DET 39
C.SYNC 111
DUMMY V.SYNC 109
VIDEO H.SW 105
C.ROTARY 99
Y/C CS 93
AUDIO MUTE-H 95
H.AMP SW 100
V.REC ST-H 96
V ENV 24
CTL(+) 3
CTL(-) 4
Y/C DATA 54
Y/C CLK 53
COMP 101
AV SW1 92
AV SW2 91
CV IN1 17
POWER MUTE L 87
AFT S.CURVE 33
CV OUT 19
VCR-H 86
IIC CLK 61
IIC SDA 62
VIDEO MUTE H 40
SYS_MUTE 88
RF_CH_SW 94
TAB SW 35
SW3001
REC SAFTY
SW
IC3003
PST3231NR
SYSTEM
RESET
/RESET 77
EEPROM
IC3099
S-24C02BFJ-TB
6 SCL
5 SDA
SEG 10 73
SEG 9 71
SEG 8 68
SEG 7 67
SEG 6 66
3G/TV/VCR LED 50
4G/TIME SHIFT LED 51
5G/CS/BS LED 52
SEG 2 58
SEG 3 59
SEG 4 60
REC_MUTE_H
AUDIO_MUTE-H
SCL
SDA
HIFI_ENV.DET
HIFI_H.SW
ST_SELECT
HIFI/
DEMODULATOR
4FSC
C.SYNC
DUMMY_V.SYNC
H.SW
C.ROTARY
Y/C CS
AUDIO_MUTE-H
H.AMP_SW
V.REC_ST-H
ENV.DET
CTL+
CTL-
Y/C_DATA
Y/C_CLK
COMP
Y/C/AUDIO/
CCD/HEAD AMP
AV_SW1
AV_SW2
SW_V_ OUT
POWER_MUTE-L
AFT-S.CURVE
VIDEO_OUT
TV/VCR
SCL
SDA
VIDEO_MUTE-H
SYS_MUTE
RF_CH_SW
TUNER/JACK
AT+5V
POWER
SEG 10
SEG 9
SEG 8
SEG 7
SEG 6
3G/TV/VCR_LED
4G/VSC_LED
5G/CS/BS_LED
SEG 2
SEG 3
SEG 4
OPERATION/
DISPLAY

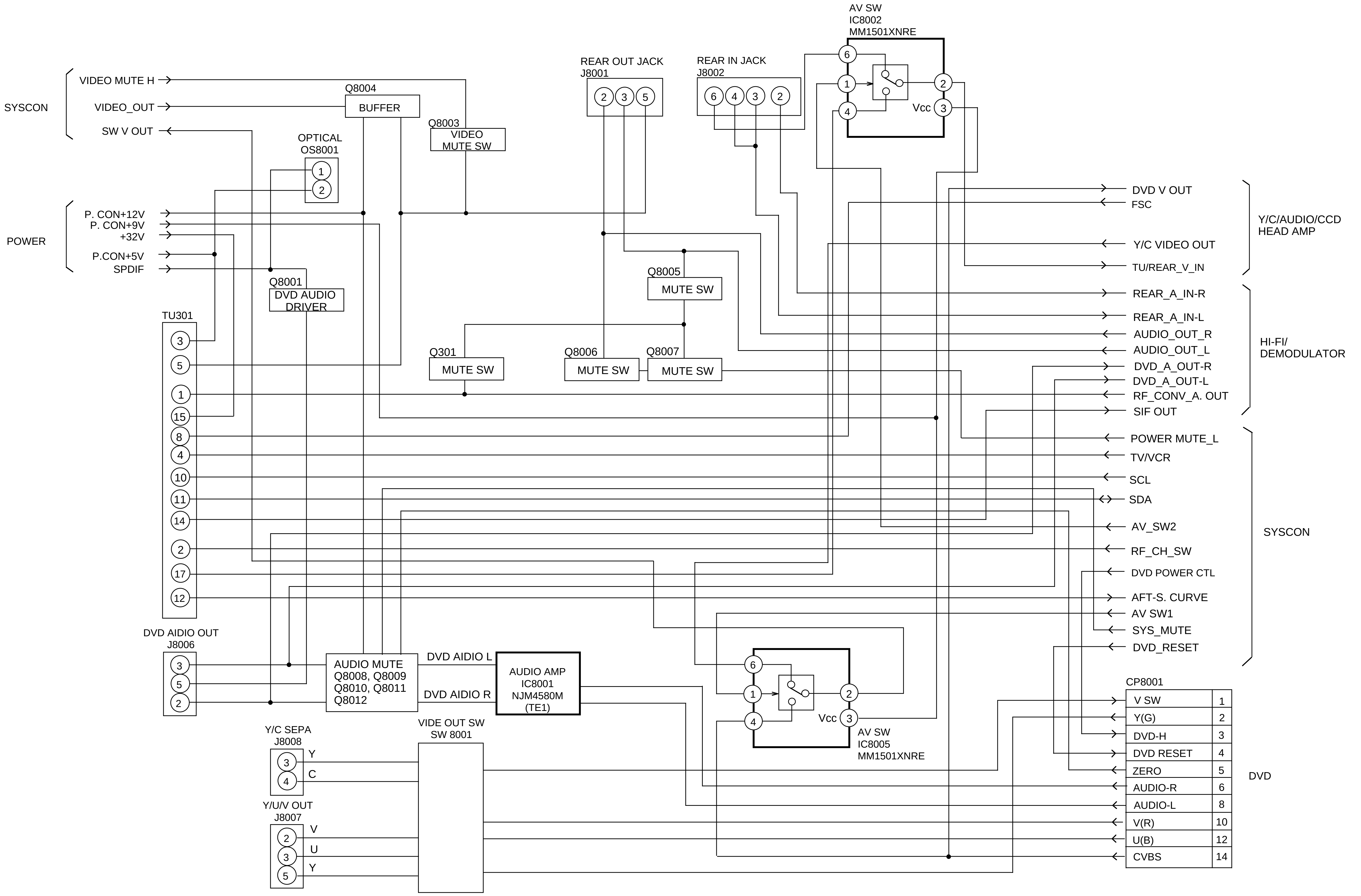
OPERATION/DISPLAY BLOCK DIAGRAM


V651 LTG-0366AM-J
14 15 13 12 11 10 8 9 7 5 4 6 2 1 3
Q651 5G SW
Q652 SEG10 SW
Q653 SEG9 SW
Q654 4G SW
Q655 SEG8 SW
Q656 SEG7 SW
Q657 SEG6 SW
Q658 SEG5 SW
Q659 3G SW
Q660 SEG4 SW
Q661 2G SW
Q662 SEG3 SW
Q663 SEG2 SW
Q664 SEG1 SW
Q665 1G SW
5G/CS/BS_LED
SEG10
SEG9
4G/VSC_LED
SEG8
SEG7
SEG6
SEG5
3G/TV/VCR_LED
SEG4
2G/DUB/REC_LED
SEG3
SEG2
SEG1
1G/VCR/T-REC_LED
SYSCON
FRONT AV JACK
AUDIO R J603
AUDIO L J602
VIDEO J601
2 3
2
2
CP601
FRONT V IN 12
FRONT A IN L 10
FRONT A IN R 8
VCR LED 4
REM IN 2
AT+5.2V 1
KEY-B 5
KEY-A 6
CP652
12 10 8 4 2 1 5 6
FRONT_V_IN
Y/C/AUDIO/CCD/ HEAD AMP
FRONT_A_IN_L
FRONT_A_IN_R
HI-FI/ DEMODULATOR
VCR_LED
REM IN
KEY-A
KEY-B
DVD_LED
SYSCON
AT+5.2V
POWER
VCR LED D602
OS601
1
2
CP603
4 VCR_LED
2 REM_IN
1 AT+5.2V
5 KEY-B
6 KEY-A
CP602
4 2 1 5 6
CP681
KEY-A 2
KEY-B 1
DVD LED 5
CP651
2 1 5
Q666 DVD LED SW
DVD LED D685
REC/OTR
CH DOWN
POWER
VCR EJECT
CH UP
STOP
FF/CUE
PLAY
REW/REV
VCR/DVD
OPEN/CLOSE

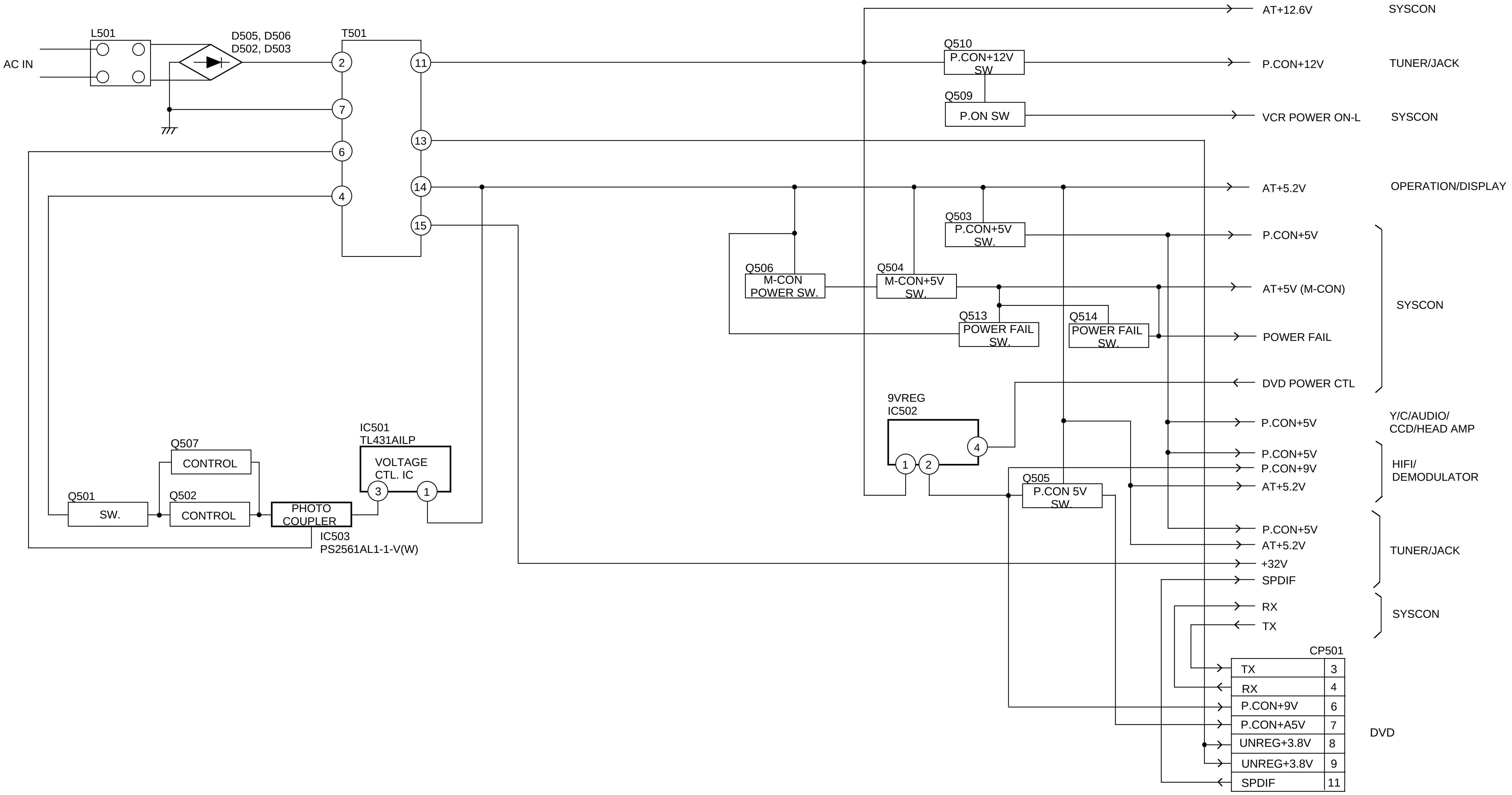
Hi-Fi/DEMODULATOR BLOCK DIAGRM


HI-FI/DEMODULATOR IC
IC701
LA72670BM-L-MPB-E
Y/C/AUDIO/CCD
/HEAD AMP
HF1
HF2
HF_COM
FSC
FROM_NORMAL_A
TO_NORMAL_A
POWER
AT+5.2V
P.CON+9V
P.CON+5V
24
27
26
51
4
6
54
5
3
15
36
46
32
AMP
AMP
ALC
INPUT SW
OUTPUT
SW
AMP
AMP
ALC/
MUTE
PNR
DBX
NOISE
REDUCTION
DEM
BLOCK
LOGIC
69
9
74
71
9
73
11
12
78
80
2
57
23
39
49
38
37
40
17
REAR_A_IN_R
REAR_A_IN_L
FRONT_A_IN-R
FRONT_A_IN-L
DVD_A_OUT-R
DVD_A_OUT-L
AUDIO_OUT_R
AUDIO_OUT_L
RF_CONV_A.OUT
SIF OUT
HIFI_ENV. DET
HIFI_H.SW
AUDIO_MUTE-H
SCL
SDA
ST_SELECT
REC_MUTE-H
TUNER/JACK
OPERATION/
DISPLAY
TUNER/JACK
SYSCON

TUNER/JACK BLOCK DIAGRAM

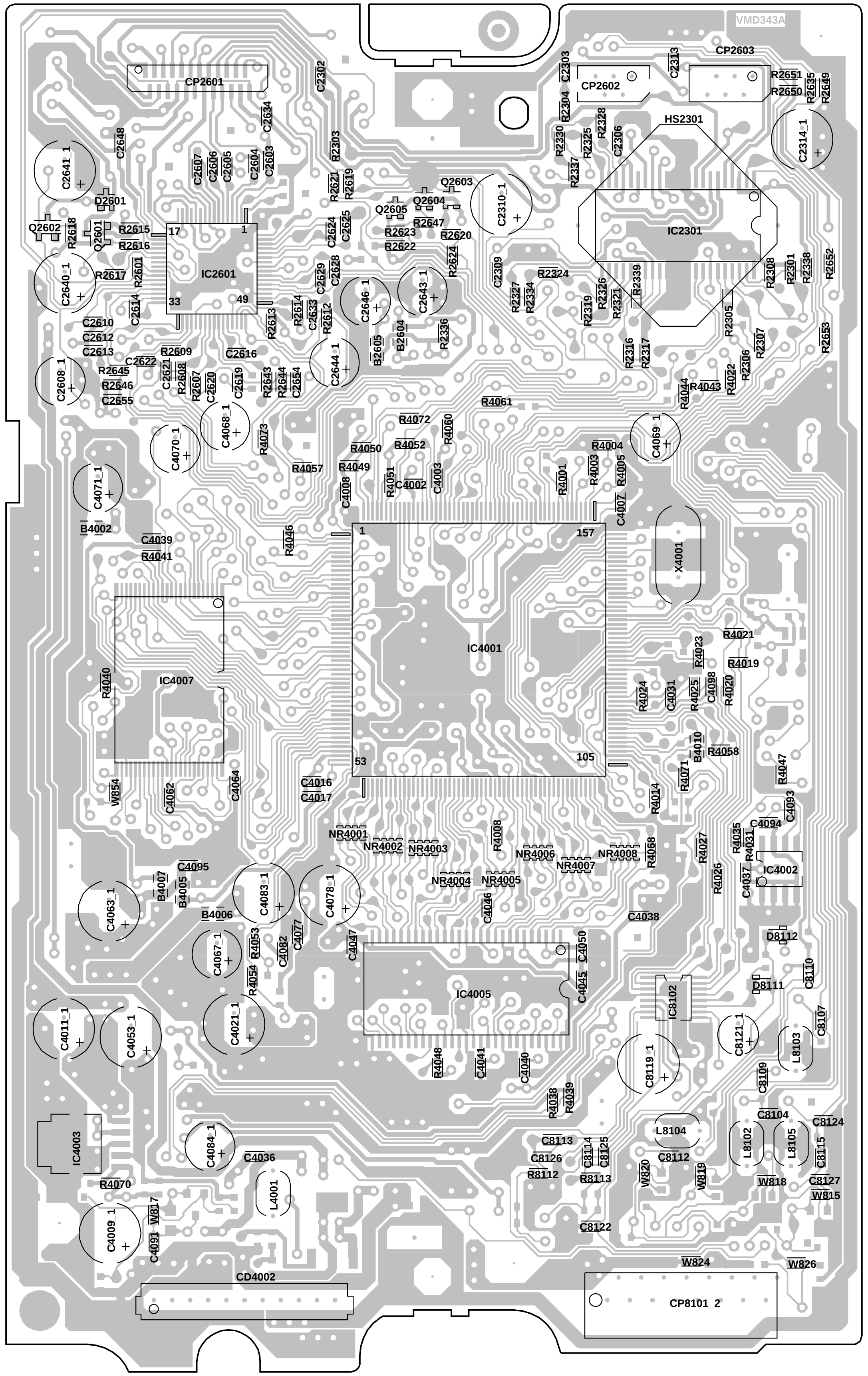

AV SW
IC8002
MM1501XNRE
REAR OUT JACK
J8001
REAR IN JACK
J8002
SYSCON
VIDEO MUTE H
VIDEO_OUT
SW V OUT
Q8004
BUFFER
Q8003
VIDEO
MUTE SW
OPTICAL
OS8001
POWER
P. CON+12V
P. CON+9V
+32V
P.CON+5V
SPDIF
Q8001
DVD AUDIO
DRIVER
TU301
Q8005
MUTE SW
Q301
MUTE SW
Q8006
MUTE SW
Q8007
MUTE SW
Vcc
DVD V OUT
FSC
Y/C VIDEO OUT
TU/REAR_V_IN
Y/C/AUDIO/CCD
HEAD AMP
REAR_A_IN-R
REAR_A_IN-L
AUDIO_OUT_R
AUDIO_OUT_L
DVD_A_OUT-R
DVD_A_OUT-L
RF_CONV_A. OUT
SIF OUT
HI-FI/
DEMODULATOR
POWER MUTE_L
TV/VCR
SCL
SDA
AV_SW2
RF_CH_SW
DVD POWER CTL
AFT-S. CURVE
AV SW1
SYS_MUTE
DVD_RESET
SYSCON
DVD AIDIO OUT
J8006
AUDIO MUTE
Q8008, Q8009
Q8010, Q8011
Q8012
DVD AIDIO L
DVD AIDIO R
AUDIO AMP
IC8001
NJM4580M
(TE1)
AV SW
IC8005
MM1501XNRE
CP8001
V SW 1
Y(G) 2
DVD-H 3
DVD RESET 4
ZERO 5
AUDIO-R 6
AUDIO-L 8
V(R) 10
U(B) 12
CVBS 14
DVD
Y/C SEPA
J8008
Y
C
VIDE OUT SW
SW 8001
Y/U/V OUT
J8007
V
U
Y

POWER BLOCK DIAGRAM

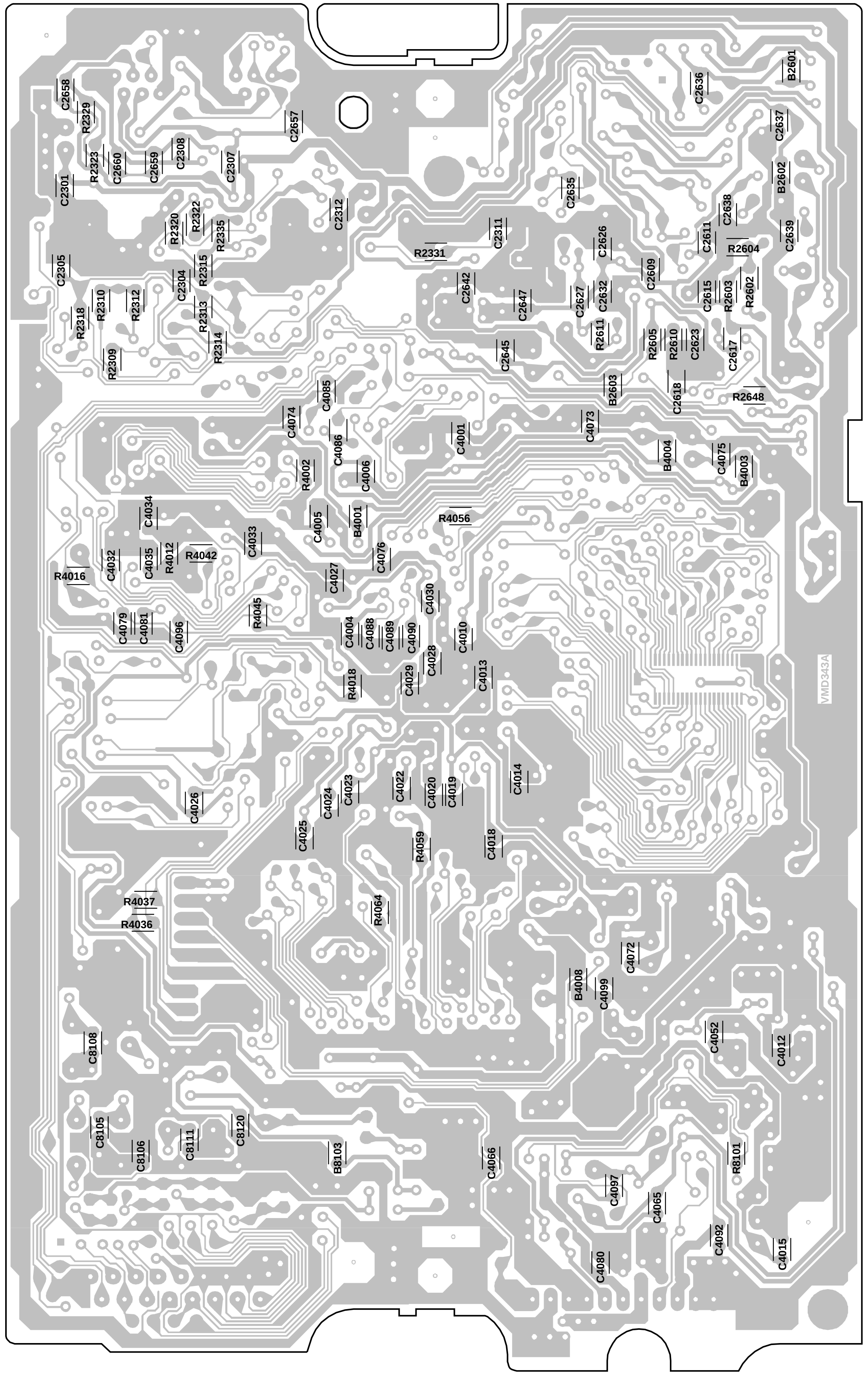

AC IN
L501
D505, D506
D502, D503
T501
2
7
6
4
11
13
14
15
Q510
P.CON+12V SW
Q509
P.ON SW
AT+12.6V
SYSCON
P.CON+12V
TUNER/JACK
VCR POWER ON-L
SYSCON
AT+5.2V
OPERATION/DISPLAY
Q503
P.CON+5V SW.
P.CON+5V
Q506
M-CON POWER SW.
Q504
M-CON+5V SW.
AT+5V (M-CON)
SYSCON
Q513
POWER FAIL SW.
Q514
POWER FAIL SW.
POWER FAIL
DVD POWER CTL
9VREG
IC502
1
2
4
P.CON+5V
Y/C/AUDIO/
CCD/HEAD AMP
P.CON+5V
P.CON+9V
HIFI/
DEMODULATOR
Q505
P.CON 5V SW.
AT+5.2V
P.CON+5V
AT+5.2V
+32V
SPDIF
TUNER/JACK
RX
TX
SYSCON
IC501
TL431AILP
VOLTAGE CTL. IC
3
1
Q507
CONTROL
Q501
SW.
Q502
CONTROL
PHOTO COUPLER
IC503
PS2561AL1-1-V(W)
CP501
TX 3
RX 4
P.CON+9V 6
P.CON+A5V 7
UNREG+3.8V 8
UNREG+3.8V 9
SPDIF 11
DVD

PRINTED CIRCUIT BOARDS

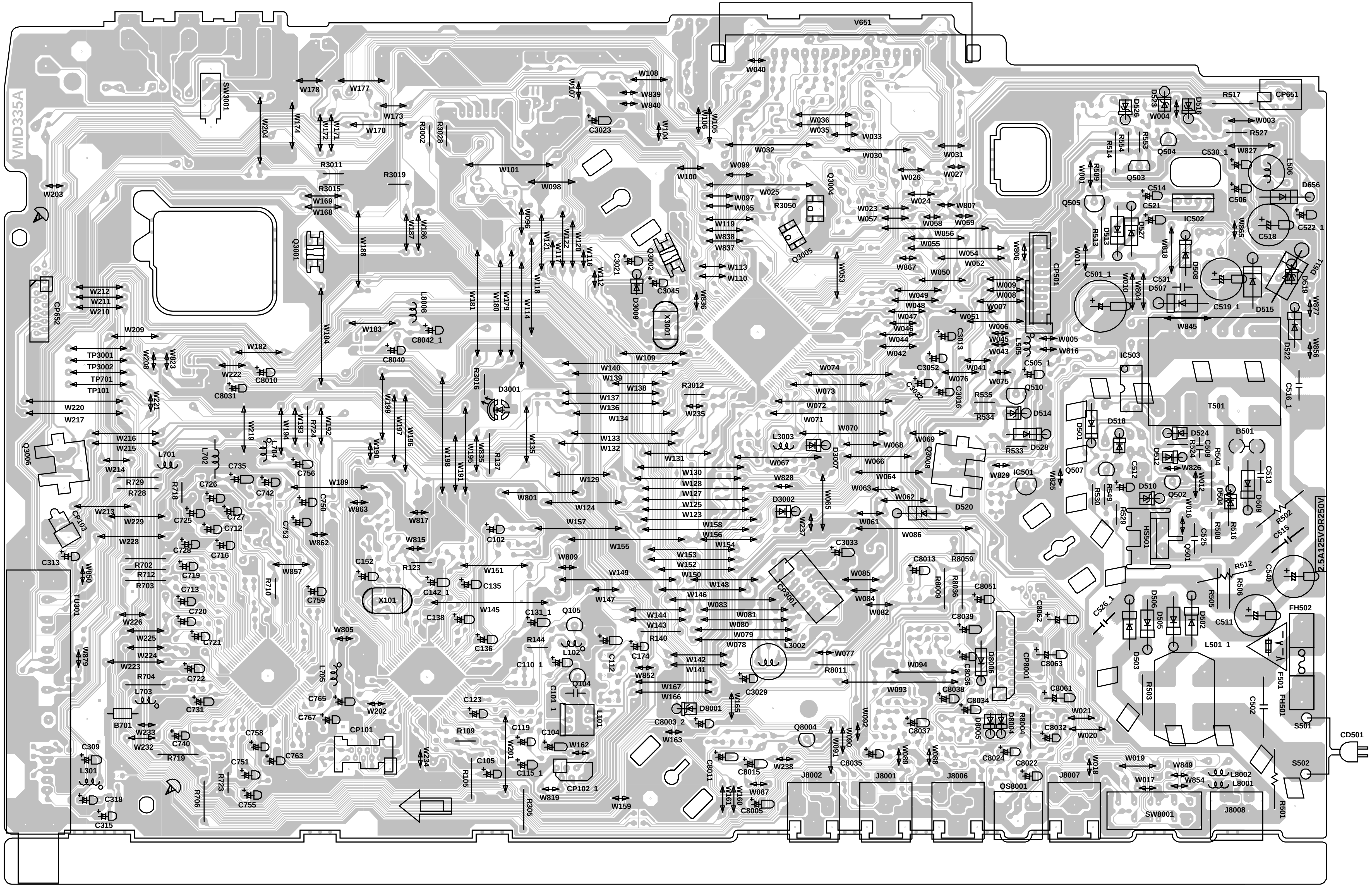
DVD (TOP SIDE)


VMD343A
CP2601
CP2602
CP2603
HS2301
IC2301
IC2601
IC4001
IC4002
IC4003
IC4005
IC4007
IC8102
X4001
CD4002
CP8101_2
C2641_1
C2640_1
C2608_1
C2310_1
C2314_1
C2646_1
C2643_1
C2644_1
C4068_1
C4070_1
C4069_1
C4071_1
C4063_1
C4083_1
C4078_1
C4067_1
C4021_1
C4011_1
C4053_1
C4084_1
C4009_1
C8119_1
C8121_1
Q2601
Q2602
Q2603
Q2604
Q2605
D2601
D8111
D8112
L4001
L8102
L8103
L8104
L8105
NR4001
NR4002
NR4003
NR4004
NR4005
NR4006
NR4007
NR4008
W815
W817
W818
W819
W820
W824
W826
W854
17
1
33
49
157
53
105

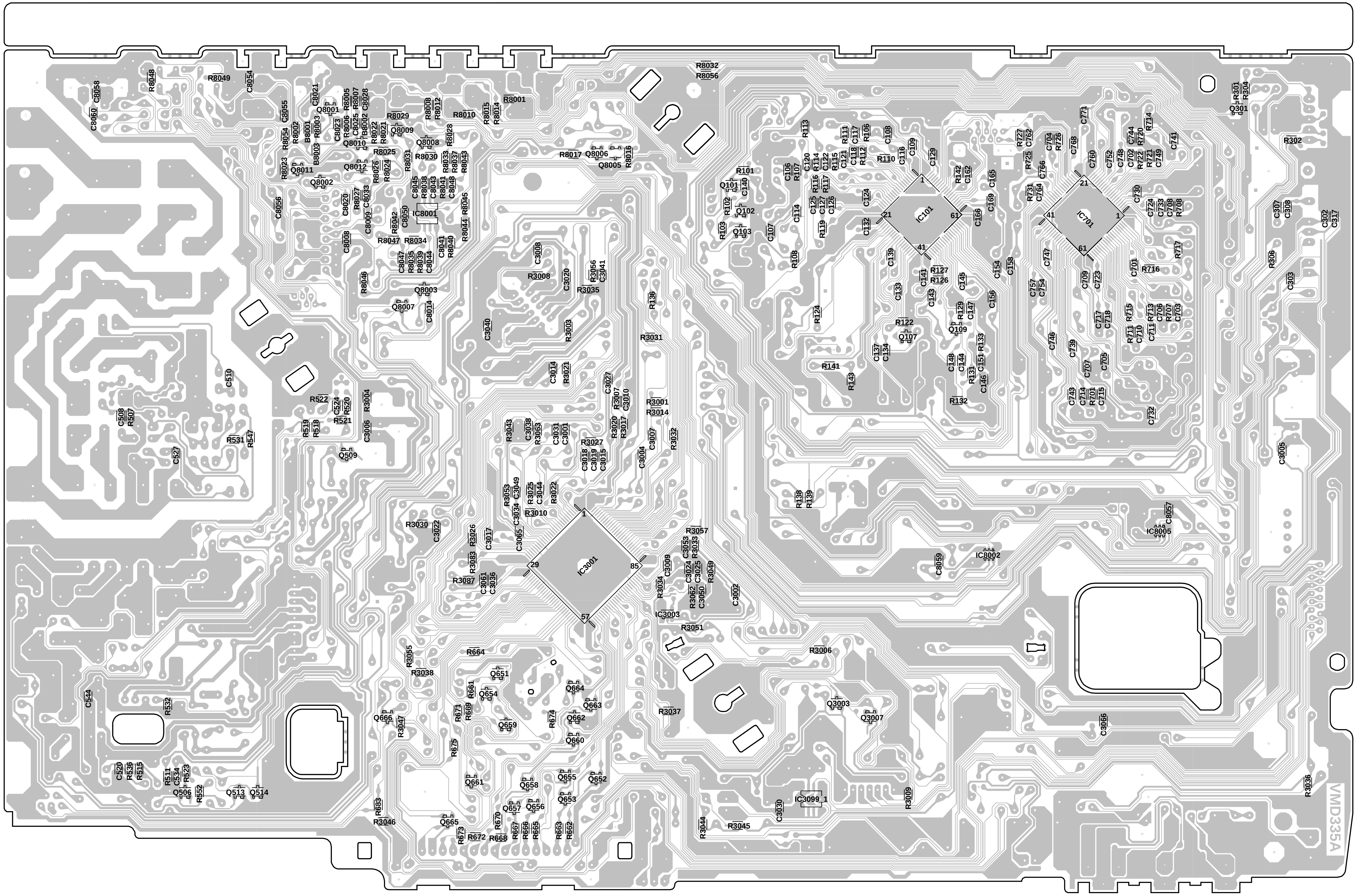
DVD (BOTTOM SIDE)


VMD343A
R2331
R2604
R2648
R4016
R4042
R4056
R4037
R4036
C2301
C2305
C2657
C2658
C4001
C4012
C4014
C4015
C4026
C4052
C4066
C4072
C4080
C4092
C4097
C8105
C8106
C8108
C8111
C8120
B2601
B2602
B2603
B4001
B4003
B4004
B4008
B8103
R8101

PRINTED CIRCUIT BOARDS
VCR (INSERTED PARTS)
SOLDER SIDE

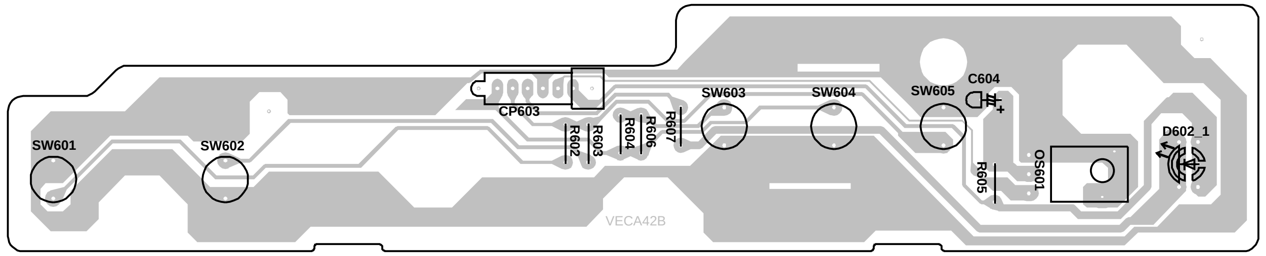

V651
VMD335A
SW3001
W178
W177
W204
W174
W172
W171
W173
W170
R3002
R3028
W107
W108
W839
W840
C3023
W104
W106
W105
W040
W036
W035
W033
W032
W030
W031
R517
CP651
D526
D523
W004
D516
W003
R527
R554
R553
R514
Q504
C530_1
W827
L506
R3011
R3019
W101
W098
W099
W100
W025
R3050
Q3004
W026
W027
W001
R509
Q503
C514
C506
D656
W203
R3015
W169
W168
Q3001
W188
W187
W186
W096
W121
W122
W117
W120
W116
W097
W095
W119
W838
W837
W023
W057
W024
W807
W058
W059
Q505
C521
IC502
W865
C518
C522_1
R513
D513
D527
W056
W055
W054
W052
W806
W818
D511
D508
W011
C3021
Q3002
W112
W113
W110
Q3005
W053
W867
W050
CP501
C501_1
W010
W804
C531
D507
D519
W212
W211
W210
CP652
L8008
W118
W181
W180
W179
W114
D3009
C3045
W836
W049
W048
W047
W009
W008
W007
C519_1
D515
W877
W209
W183
C8042_1
X3001
W051
W046
W044
W042
C3013
W006
W045
W043
L505
W005
W816
W845
W856
D522
TP3001
TP3002
TP701
TP101
W208
W823
W182
W222
C8010
C8031
C8040
W184
R3016
D3001
W140
W139
W138
W137
W136
W134
W109
R3012
W235
W074
W073
W072
W071
W070
C3052
C3032
C3016
W041
W076
W075
C505_1
Q510
R535
R534
IC503
C516_1
T501
W220
W217
W221
W219
W194
W193
R724
W192
W199
W197
W196
W190
W198
W191
W195
W835
R137
W135
W133
W132
W131
L3003
D3007
W068
W069
Q3008
D514
D518
D501
D524
B501
R533
D528
R534
C509
R504
W216
W215
W214
Q3006
L701
L702
C735
C756
L704
W189
W130
W128
W127
W125
W123
W067
W066
W064
W828
W063
IC501
W829
W825
Q507
C512
D512
W826
W012
C513
R530
R549
R529
D510
Q502
D504
D509
R729
R728
W718
C726
C742
W750
W863
W801
W129
W124
D3002
W237
W065
W062
D520
W016
R516
R502
W213
CP103
C725
C727
C712
W229
C753
W815
W157
W158
W156
W061
W086
HS501
R508
C525
Q501
C515
W228
C728
C716
W862
C102
W815
W155
W154
W153
W152
W150
C3033
C8013
R8059
R512
R506
C540
2.5A125VOR250V
C313
W850
R702
R712
R703
C719
C713
R710
W857
C152
R123
W151
W809
W149
W148
W146
CP3001
W085
W084
R8009
R8036
C8051
R505
TU301
C720
C759
X101
C142_1
C135
W145
W147
W144
W143
W083
W081
W080
W079
W082
C8039
C8062
C526_1
D506
D505
D502
C511
FH502
W226
W225
W805
C138
C131_1
Q105
R144
C136
L102
R140
C174
C112
W078
L3002
W077
CP8001
D8006
C8063
D503
L501_1
C721
W224
W879
W223
R704
C722
L705
W852
C110_1
W142
W141
R8011
W094
C8036
L703
C731
W765
W202
C123
Q104
C101_1
W167
W166
D8001
W165
C3029
W093
C8038
C8034
C8061
R503
F501
FH501
C502
B701
W233
W232
C740
C758
C767
CP101
R109
C119
C104
W201
L101
C8003_2
W163
W162
Q8004
W092
W090
W091
D8005
R8004
C8037
W021
C8032
W020
S501
CD501
C309
L301
R719
C751
C763
W234
C105
C115_1
C8011
C8015
W238
C8035
W089
W088
C8024
C8022
W018
W019
W849
S502
C318
R723
R706
C755
R105
W819
CP102_1
R305
W159
W160
W161
W087
C8005
J8002
J8001
J8006
OS8001
J8007
W017
W854
L8002
L8001
R501
C315
SW8001
J8008

PRINTED CIRCUIT BOARDS
VCR (CHIP MOUNTED PARTS)
SOLDER SIDE

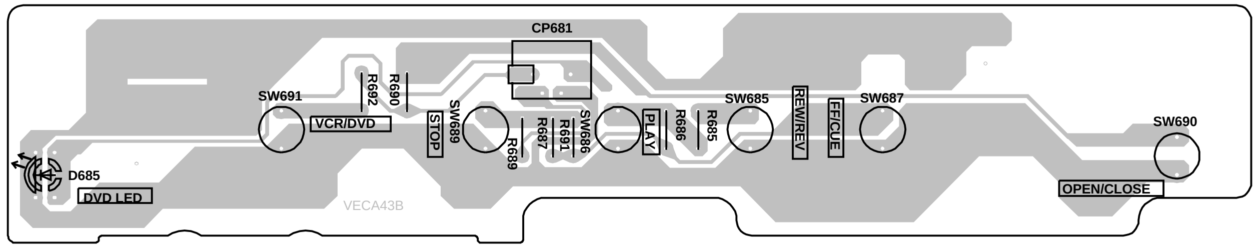

IC3001
IC101
IC701
IC8001
IC8002
IC8005
IC3003
IC3099
VMD335A

PRINTED CIRCUIT BOARDS

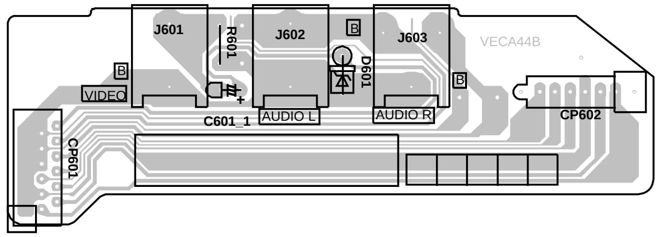
OPERATION 1
SOLDER SIDE


CP603
SW601
SW602
R602
R603
R604
R606
R607
SW603
SW604
SW605
C604
QS601
R605
D602_1
VECA42B

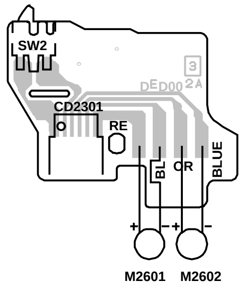
OPERATION 2
SOLDER SIDE


CP681
SW691
R692
R690
VCR/DVD
STOP
SW689
R689
R687
R691
SW686
PLAY
R686
R685
SW685
REW/REV
FF/CUE
SW687
SW690
D685
DVD LED
VECA43B
OPEN/CLOSE

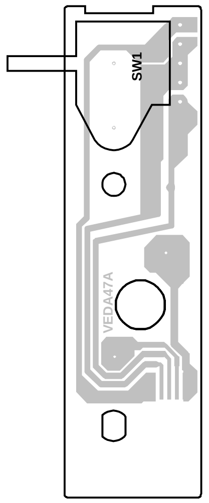
FRONT JACK
SOLDER SIDE


J601
R601
J602
J603
D601
VECA44B
VIDEO
C601_1
AUDIO L
AUDIO R
CP602
CP601

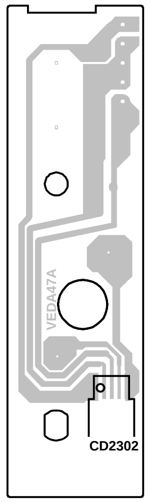
SW
SOLDER SIDE


SW2
DED002A
3
CD2301
RE
BL
OR
BLUE
+
–
+
–
M2601
M2602

LOADING MOTOR (INSERTED PARTS)
SOLDER SIDE

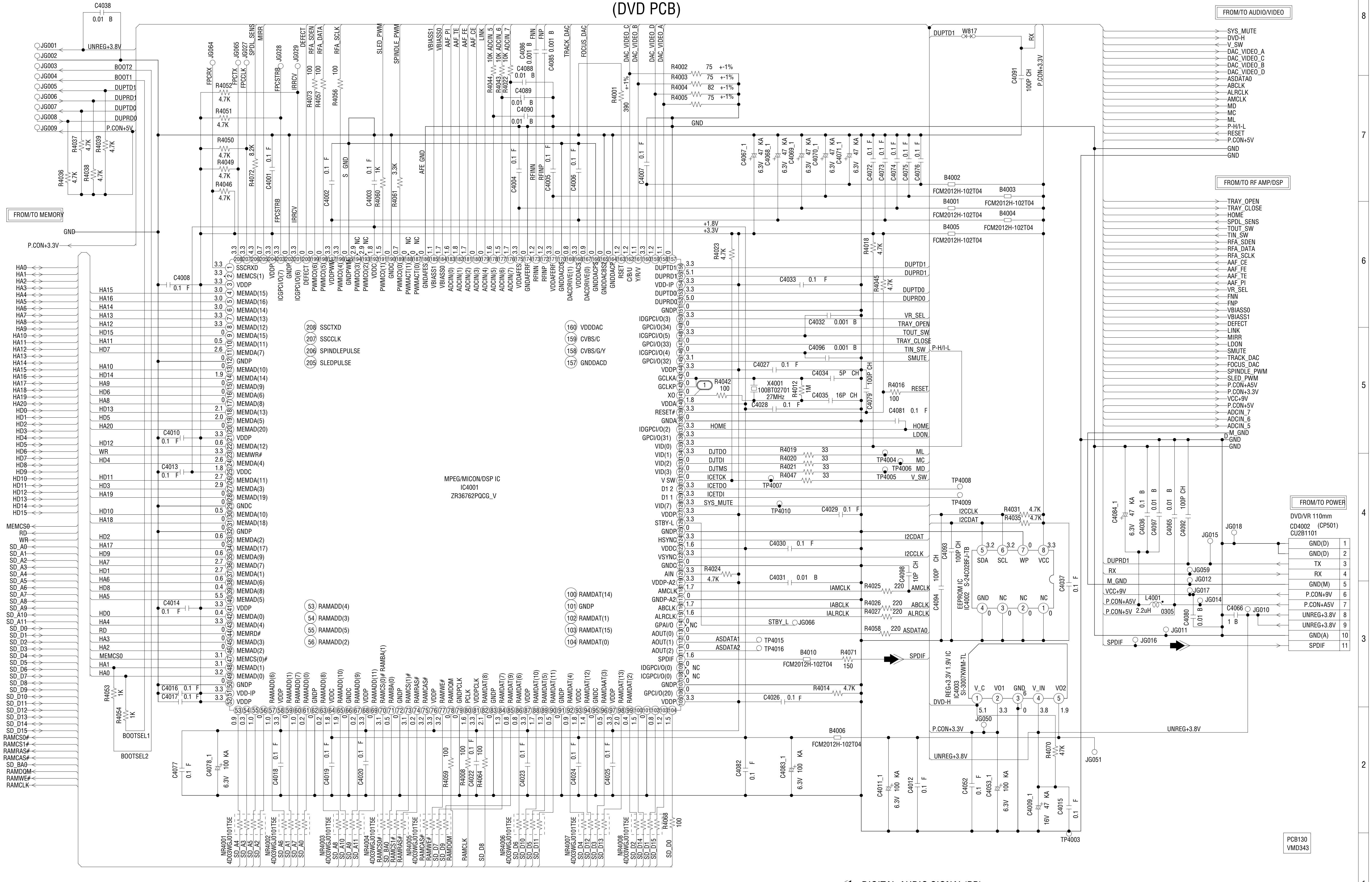

SW1
VEDA47A

LOADING MOTOR (CHIP MOUNTED PARTS)
SOLDER SIDE


VEDA47A
CD2302

MPEG/MICON/DSP SCHEMATIC DIAGRAM

(DVD PCB)

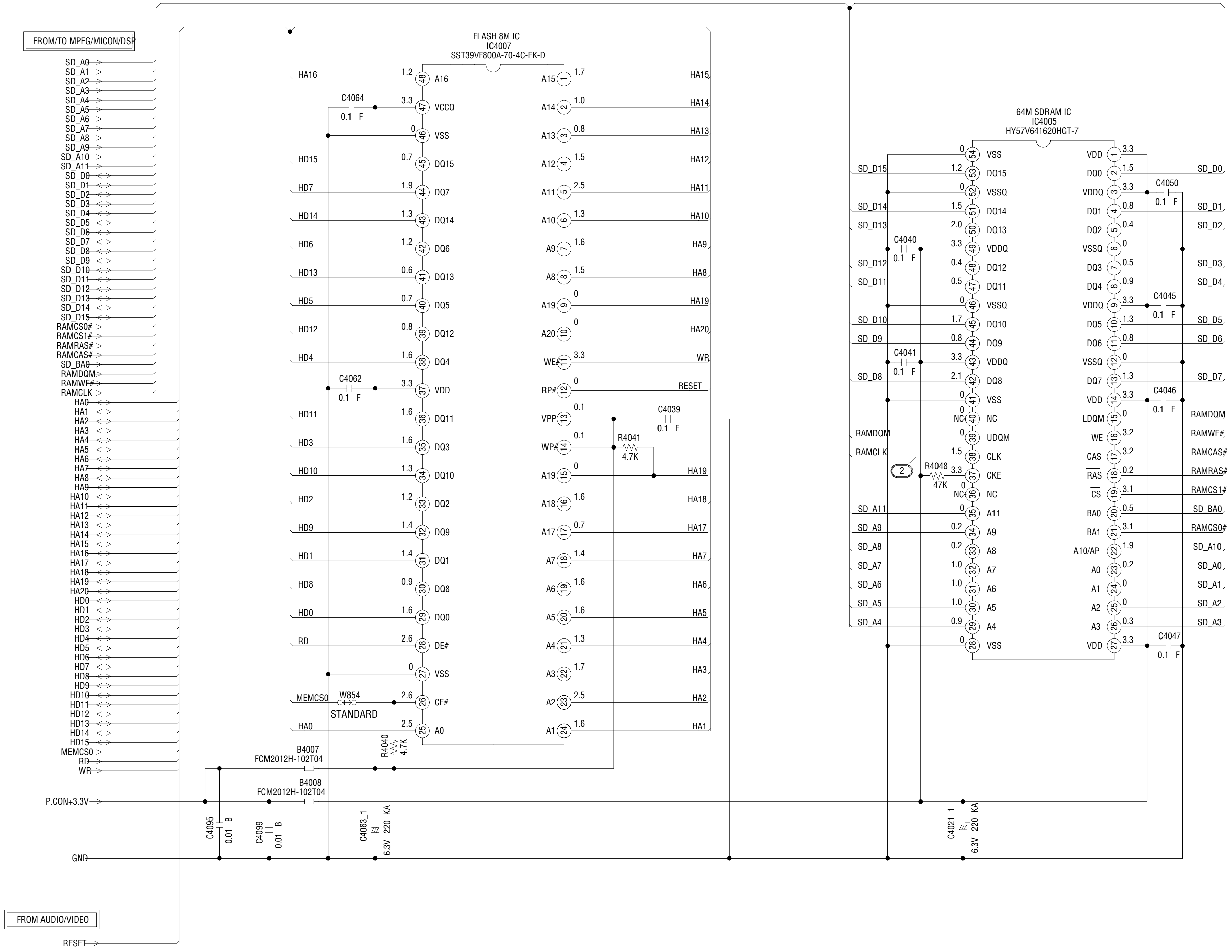

FROM/TO AUDIO/VIDEO
SYS_MUTE
DVD-H
V_SW
DAC_VIDEO_A
DAC_VIDEO_C
DAC_VIDEO_B
DAC_VIDEO_D
ASDATA0
ABCLK
ALRCLK
AMCLK
MD
MC
ML
P-H/I-L
RESET
P.CON+5V
GND
GND
FROM/TO RF AMP/DSP
TRAY_OPEN
TRAY_CLOSE
HOME
SPDL_SENS
TOUT_SW
TIN_SW
RFA_SDEN
RFA_DATA
RFA_SCLK
AAF_CE
AAF_FE
AAF_TE
AAF_PI
VR_SEL
FNN
FNP
VBIASS0
VBIASS1
DEFECT
LINK
MIRR
LDON
SMUTE
TRACK_DAC
FOCUS_DAC
SPINDLE_PWM
SLED_PWM
P.CON+A5V
P.CON+3.3V
VCC+9V
P.CON+5V
ADCIN_7
ADCIN_6
ADCIN_5
M_GND
GND
GND
FROM/TO MEMORY
FROM/TO POWER
DVD/VR 110mm
CD4002 (CP501)
CU2B1101
GND(D) 1
GND(D) 2
TX 3
RX 4
GND(M) 5
P.CON+9V 6
P.CON+A5V 7
UNREG+3.8V 8
UNREG+3.8V 9
GND(A) 10
SPDIF 11
MPEG/MICON/DSP IC
IC4001
ZR36762PQCG_V
EEPROM IC
IC4002 S-24C02BFJ-TB
SDA SCL WP VCC
GND NC NC NC
REG+3.3V 1.9V IC
IC4003
SI-3007KWM-TL
V_C VO1 GND V_IN VO2
X4001
100BT02701
27MHz
JG001 JG002 JG003 JG004 JG005 JG006 JG007 JG008 JG009
UNREG+3.8V
BOOT2
BOOT1
DUPTD1
DUPRD1
DUPTD0
DUPRD0
P.CON+5V
BOOTSEL1
BOOTSEL2
PCB130
VMD343
DIGITAL AUDIO SIGNAL(PB)

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MEMORY SCHEMATIC DIAGRAM

(DVD PCB)


FROM/TO MPEG/MICON/DSP
SD_A0 – SD_A11
SD_D0 – SD_D15
RAMCS0#
RAMCS1#
RAMRAS#
RAMCAS#
SD_BA0
RAMDQM
RAMWE#
RAMCLK
HA0 – HA20
HD0 – HD15
MEMCS0
RD
WR
P.CON+3.3V
GND
FROM AUDIO/VIDEO
RESET
FLASH 8M IC
IC4007
SST39VF800A-70-4C-EK-D
C4064
0.1 F
C4062
0.1 F
C4039
0.1 F
R4041
4.7K
W854
STANDARD
R4040
4.7K
B4007
FCM2012H-102T04
B4008
FCM2012H-102T04
C4095
0.01 B
C4099
0.01 B
C4063_1
6.3V 220 KA
64M SDRAM IC
IC4005
HY57V641620HGT-7
C4040
0.1 F
C4041
0.1 F
C4050
0.1 F
C4045
0.1 F
C4046
0.1 F
C4047
0.1 F
R4048
47K
C4021_1
6.3V 220 KA

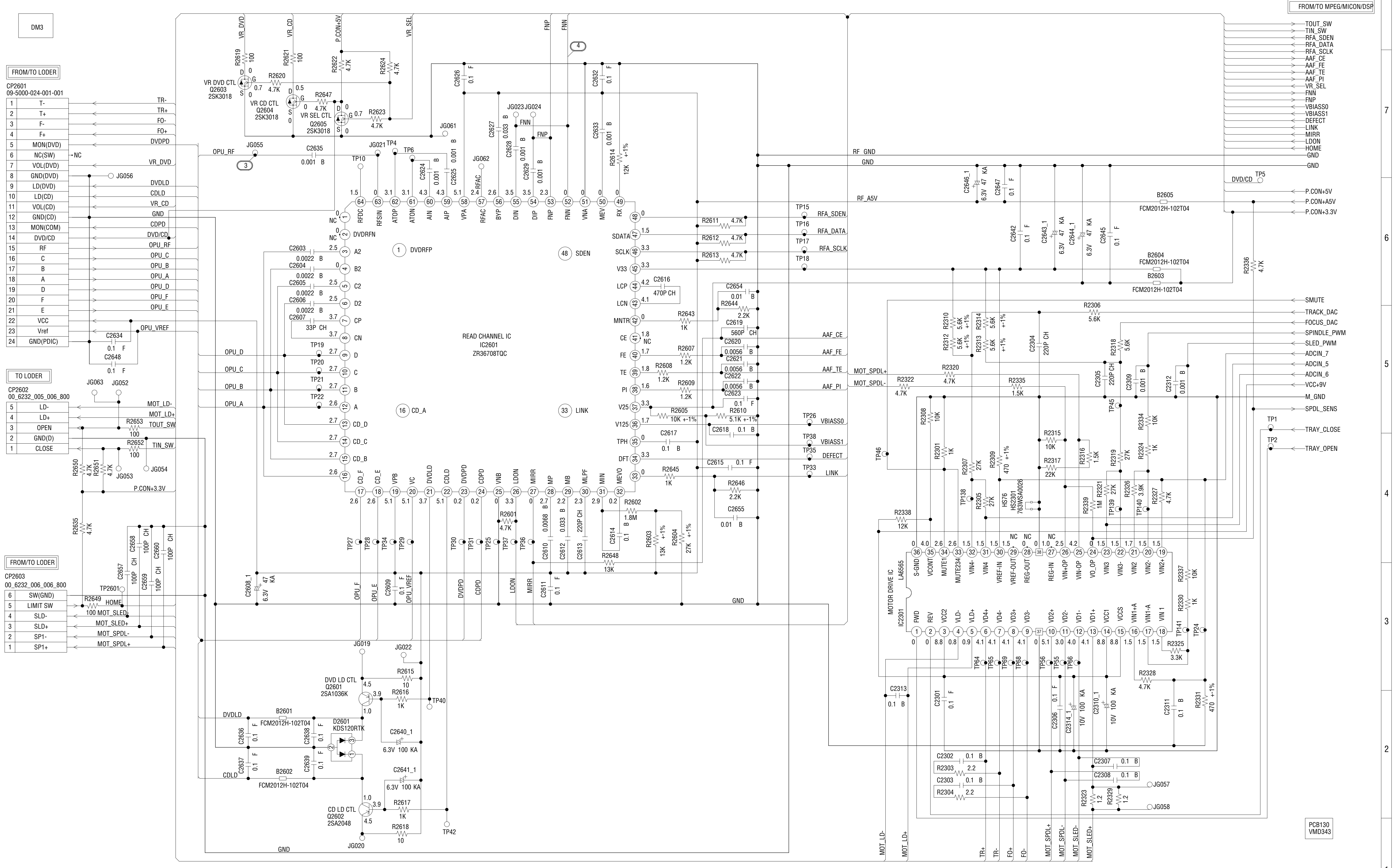
PCB130
VMD343

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

RF AMP/DSP SCHEMATIC DIAGRAM

(DVD PCB)

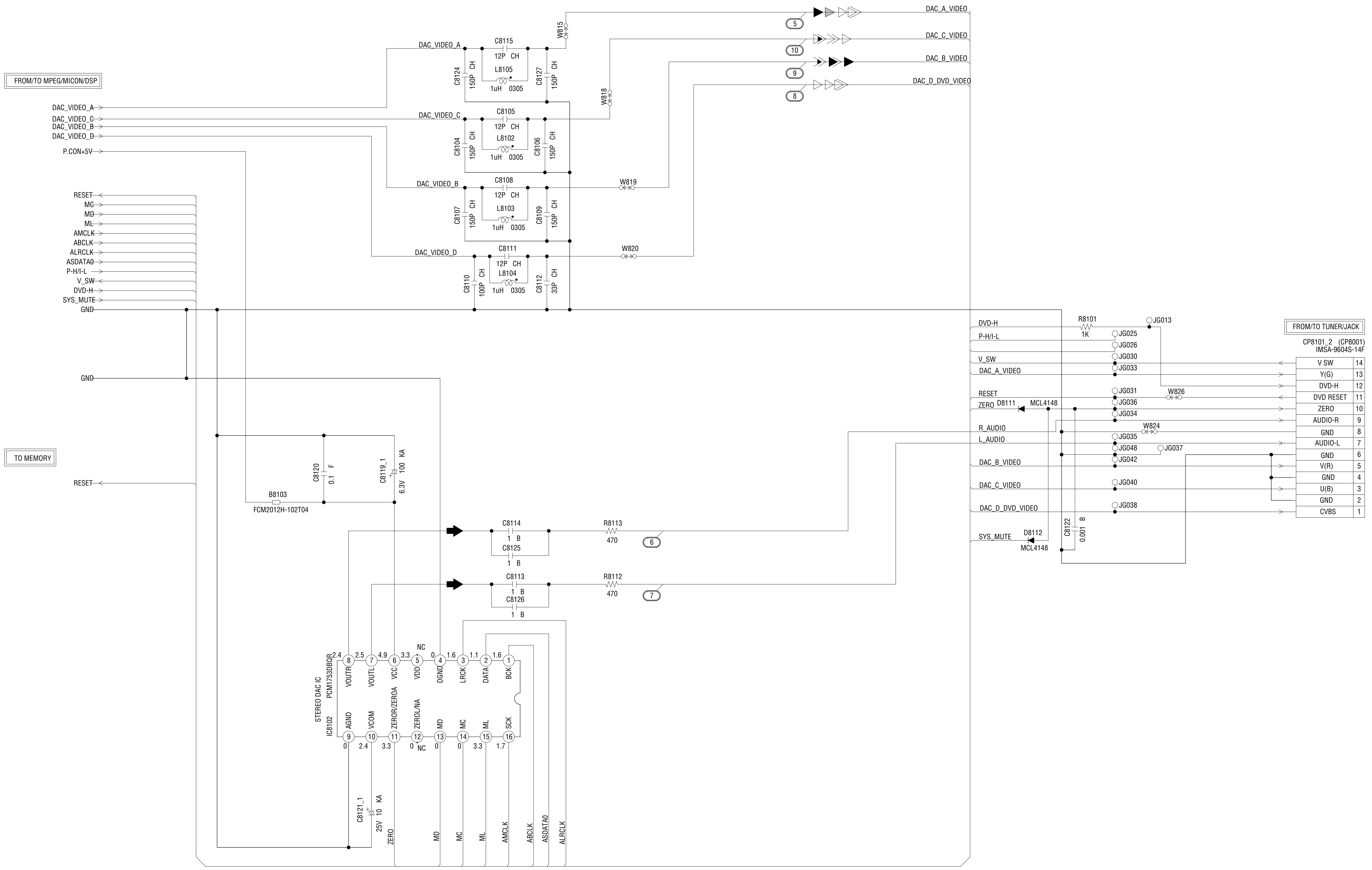

DM3
FROM/TO LODER
CP2601
09-5000-024-001-001
1 T-
2 T+
3 F-
4 F+
5 MON(DVD)
6 NC(SW)
7 VOL(DVD)
8 GND(DVD)
9 LD(DVD)
10 LD(CD)
11 VOL(CD)
12 GND(CD)
13 MON(COM)
14 DVD/CD
15 RF
16 C
17 B
18 A
19 D
20 F
21 E
22 VCC
23 Vref
24 GND(PDIC)
TR-
TR+
FO-
FO+
DVDPD
NC
VR_DVD
JG056
DVDLD
CDLD
VR_CD
GND
CDPD
DVD/CD
OPU_RF
OPU_C
OPU_B
OPU_A
OPU_D
OPU_F
OPU_E
OPU_VREF
C2634
0.1 F
C2648
0.1 F
TO LODER
CP2602
00_6232_005_006_800
5 LD-
4 LD+
3 OPEN
2 GND(D)
1 CLOSE
JG063
JG052
MOT_LD-
MOT_LD+
R2653
100
TOUT_SW
R2652
100
TIN_SW
JG054
JG053
R2650 4.7K
R2651 4.7K
P.CON+3.3V
R2635 4.7K
FROM/TO LODER
CP2603
00_6232_006_006_800
6 SW(GND)
5 LIMIT SW
4 SLD-
3 SLD+
2 SP1-
1 SP1+
TP2601
R2649
100
HOME
MOT_SLED-
MOT_SLED+
MOT_SPDL-
MOT_SPDL+
C2657 100P CH
C2658 100P CH
C2659 100P CH
C2660 100P CH
VR_DVD
VR_CD
P.CON+5V
VR_SEL
R2619 100
R2621 100
R2622 4.7K
R2624 4.7K
VR DVD CTL
Q2603
2SK3018
R2620 4.7K
VR CD CTL
Q2604
2SK3018
R2647 4.7K
VR SEL CTL
Q2605
2SK3018
R2623 4.7K
JG061
OPU_RF
JG055
3
C2635
0.001 B
JG021
TP4
TP6
TP10
C2624 0.001 B
C2625 0.001 B
JG062
C2626 0.1 F
C2627 0.033 B
C2628 0.001 B
C2629 0.001 B
JG023
JG024
FNN
FNP
4
C2632 0.1 F
C2633 0.001 B
R2614 12K +1%
RFDC
RFSIN
ATOP
ATON
AIN
AIP
VPA
RFAC
BYP
DIN
DIP
FNP
FNN
VINA
MEV
RX
NC
DVDRFN
A2
B2
C2
D2
CP
CN
D
C
B
A
CD_D
CD_C
CD_B
1 DVDRFP
48 SDEN
16 CD_A
33 LINK
READ CHANNEL IC
IC2601
ZR36708TQC
C2603 0.0022 B
C2604 0.0022 B
C2605 0.0022 B
C2606 0.0022 B
C2607 33P CH
TP19
TP20
TP21
TP22
OPU_D
OPU_C
OPU_B
OPU_A
SDATA
SCLK
V33
LCP
LCN
MNTR
CE
FE
TE
PI
V25
V125
TPH
DFT
MEVO
C2616 470P CH
R2643 1K
R2607 1.2K
R2608 1.2K
R2609 1.2K
R2605 10K +1%
R2610 5.1K +1%
C2617 0.1 B
R2645 1K
R2611 4.7K
R2612 4.7K
R2613 4.7K
TP15
TP16
TP17
TP18
RFA_SDEN
RFA_DATA
RFA_SCLK
C2654 0.01 B
R2644 2.2K
C2619 560P CH
C2620 0.0056 B
C2621 0.0056 B
C2622 0.0056 B
C2623 0.1 F
C2618 0.1 B
C2615 0.1 F
R2646 2.2K
C2655 0.01 B
AAF_CE
AAF_FE
AAF_TE
AAF_PI
TP26
VBIASS0
TP38
VBIASS1
TP35
DEFECT
TP33
LINK
CD_F
CD_E
VPB
VC
DVDLD
CDLD
DVDPD
CDPD
VNB
LDON
MIRR
MP
MB
MLPF
MIN
MEVO
R2601 4.7K
C2610 0.0068 B
C2612 0.033 B
C2613 220P CH
C2614 0.1 B
R2602 1.8M
R2603 13K +1%
R2604 27K +1%
R2648 13K
TP27
TP28
TP34
TP29
TP30
TP31
TP25
TP37
TP36
C2608_1 47 6.3V KA
C2609 0.1 F
C2611 0.1 F
OPU_F
OPU_E
OPU_VREF
DVDPD
CDPD
LDON
MIRR
GND
JG019
JG022
R2615 10
DVD LD CTL
Q2601
2SA1036K
R2616 1K
TP40
C2640_1 6.3V 100 KA
DVDLD
B2601
FCM2012H-102T04
D2601
KDS120RTK
C2636 0.1 F
C2638 0.1 F
C2637 0.1 F
C2639 0.1 F
CDLD
B2602
FCM2012H-102T04
C2641_1 6.3V 100 KA
R2617 1K
CD LD CTL
Q2602
2SA2048
R2618 10
TP42
JG020
GND
FROM/TO MPEG/MICON/DSP
TOUT_SW
TIN_SW
RFA_SDEN
RFA_DATA
RFA_SCLK
AAF_CE
AAF_FE
AAF_TE
AAF_PI
VR_SEL
FNN
FNP
VBIASS0
VBIASS1
DEFECT
LINK
MIRR
LDON
HOME
GND
GND
RF_GND
DVD/CD
TP5
P.CON+5V
P.CON+A5V
P.CON+3.3V
RF_A5V
B2605
FCM2012H-102T04
C2646_1 6.3V 47 KA
C2647 0.1 F
C2642 0.1 F
C2643_1 6.3V 47 KA
C2644_1 6.3V 47 KA
C2645 0.1 F
B2604
FCM2012H-102T04
B2603
FCM2012H-102T04
R2336 4.7K
SMUTE
TRACK_DAC
FOCUS_DAC
SPINDLE_PWM
SLED_PWM
ADCIN_7
ADCIN_5
ADCIN_6
VCC+9V
M_GND
SPDL_SENS
TP1
TRAY_CLOSE
TP2
TRAY_OPEN
R2306 5.6K
R2310 5.6K +1%
R2314 5.6K +1%
R2312 5.6K +1%
R2313 5.6K +1%
C2304 220P CH
R2318 5.6K
R2320 4.7K
R2322 4.7K
R2335 1.5K
MOT_SPDL+
MOT_SPDL-
C2305 220P CH
C2309 0.001 B
C2312 0.001 B
TP45
R2308 10K
R2301 1K
R2307 27K
R2309 470 +1%
R2315 10K
R2317 22K
R2316 1.5K
R2319 27K
R2334 10K
R2324 1K
TP46
TP138
R2305 27K
HS76
HS2301
763WSA0026
R2339 1M
R2321 27K
TP139
R2326 3.9K
TP140
R2327 4.7K
R2338 12K
S-GND
VCONT
MUTE1
MUTE234
VIN4-
VIN4
VREF-IN
VREF-OUT
REG-OUT
REG-IN
VIN-OP
VIN-OP
VO_OP
VIN3
VIN3-
VIN2
VIN2-
VIN2+
MOTOR DRIVE IC
LA6565
IC2301
FWD
REV
VCC2
VLD-
VLD+
VD4+
VD4-
VD3+
VD3-
VD2+
VD2-
VD1-
VD1+
VCC1
VCCS
VIN1+A
VIN1-A
VIN 1
R2337 10K
R2330 1K
TP141
TP24
R2325 3.3K
TP64
TP65
TP69
TP68
TP56
TP55
TP66
R2328 4.7K
C2313 0.1 B
C2301 0.1 F
C2306 0.1 F
C2314_1 10V 100 KA
C2310_1 10V 100 KA
C2311 0.1 B
R2331 470 +1%
C2302 0.1 B
R2303 2.2
C2303 0.1 B
R2304 2.2
C2307 0.1 B
C2308 0.1 B
JG057
R2323 1.2
R2329 1.2
JG058
PCB130
VMD343
MOT_LD-
MOT_LD+
TR+
TR-
FO+
FO-
MOT_SPDL+
MOT_SPDL-
MOT_SLED-
MOT_SLED+
A
B
C
D
E
F
G
H
1
2
3
4
5
6
7
8

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

AUDIO/VIDEO SCHEMATIC DIAGRAM

(DVD PCB)


FROM/TO MPEG/MICON/DSP
DAC_VIDEO_A
DAC_VIDEO_C
DAC_VIDEO_B
DAC_VIDEO_D
P.CON+5V
RESET
MC
MD
ML
AMCLK
ABCLK
ALRCLK
ASDATA0
P-H/I-L
V_SW
DVD-H
SYS_MUTE
GND
GND
TO MEMORY
RESET
C8115 12P CH
L8105 1uH 0305
C8124 150P CH
C8127 150P CH
C8105 12P CH
L8102 1uH 0305
C8104 150P CH
C8106 150P CH
C8108 12P CH
L8103 1uH 0305
C8107 150P CH
C8109 150P CH
C8111 12P CH
L8104 1uH 0305
C8110 100P CH
C8112 33P CH
W815
W818
W819
W820
5
10
9
8
DAC_A_VIDEO
DAC_C_VIDEO
DAC_B_VIDEO
DAC_D_DVD_VIDEO
C8120 0.1 F
C8119_1 100 KA 6.3V
B8103 FCM2012H-102T04
C8114 1 B
C8125 1 B
R8113 470
6
C8113 1 B
C8126 1 B
R8112 470
7
IC8102 PCM1753DBQR STEREO DAC IC
VOUTR VOUTL VCC VDD DGND LRCK DATA BCK
AGND VCOM ZEROR/ZEROA ZEROL/NA MD MC ML SCK
2.4 2.5 4.9 3.3 NC 0 1.6 1.1 1.6
0 2.4 3.3 0 NC 0 0 3.3 1.7
C8121_1 25V 10 KA
ZERO MD MC ML AMCLK ABCLK ASDATA0 ALRCLK
DVD-H
P-H/I-L
V_SW
DAC_A_VIDEO
RESET
ZERO
D8111 MCL4148
R_AUDIO
L_AUDIO
DAC_B_VIDEO
DAC_C_VIDEO
DAC_D_DVD_VIDEO
SYS_MUTE
D8112 MCL4148
C8122 0.001 B
R8101 1K
JG013 JG025 JG026 JG030 JG033 JG031 JG036 JG034 JG035 JG048 JG037 JG042 JG040 JG038
W826
W824
FROM/TO TUNER/JACK
CP8101_2 (CP8001) IMSA-9604S-14F
V SW 14
Y(G) 13
DVD-H 12
DVD RESET 11
ZERO 10
AUDIO-R 9
GND 8
AUDIO-L 7
GND 6
V(R) 5
GND 4
U(B) 3
GND 2
CVBS 1

PCB130
VMD343

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

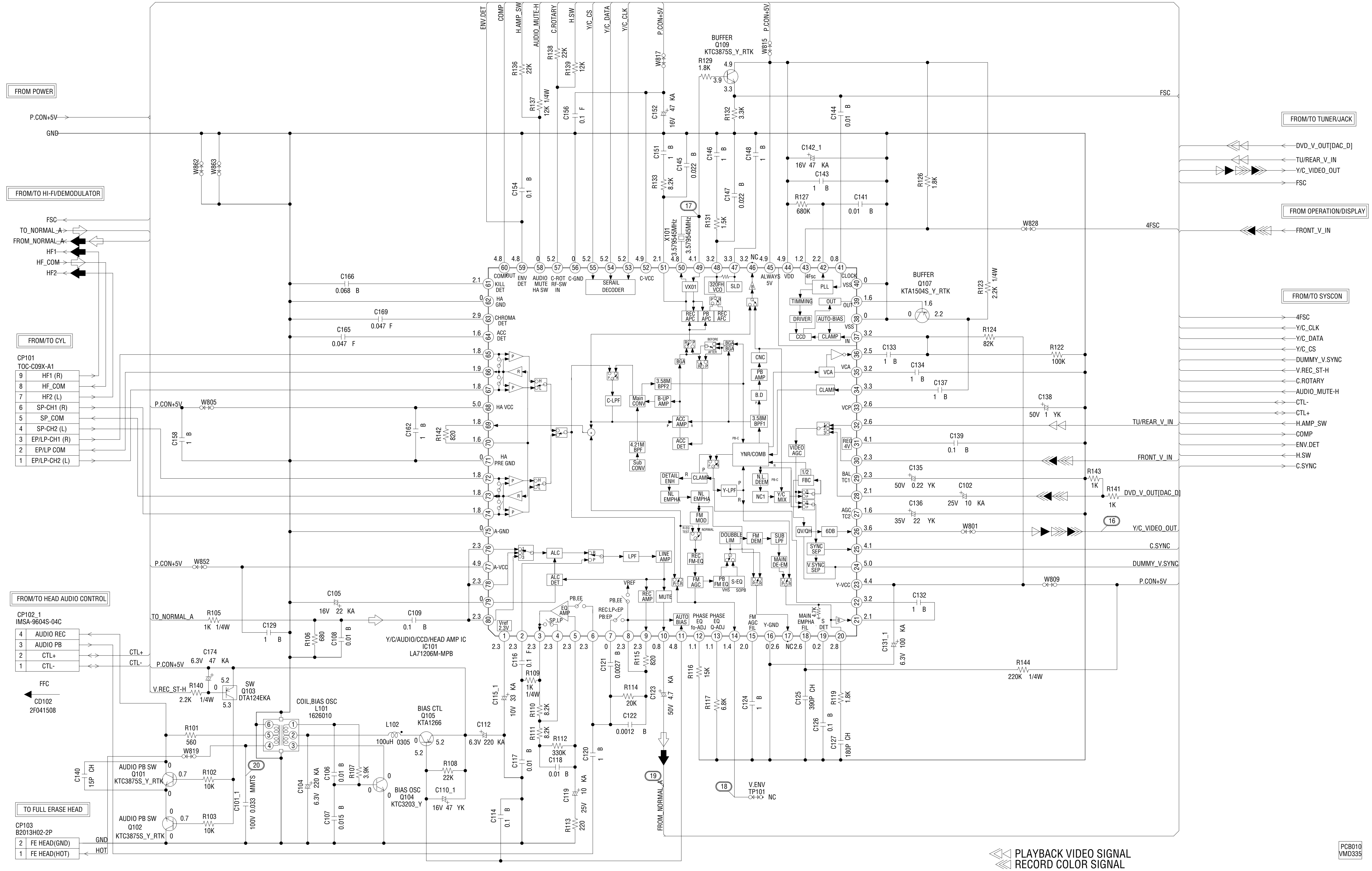
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

◁ PLAYBACK COLOR SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
◁◁◁ PLAYBACK VIDEO SIGNAL
◀ G.SIGNAL
≪ B.SIGNAL

◀ COMPONENT SIGNAL(U)
◀ COMPONENT SIGNAL(V)
⬅ AUDIO SIGNAL(PB)

Y/C/AUDIO/CCD/HEAD AMP SCHEMATIC DIAGRAM

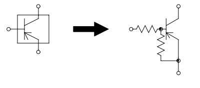
(VCR PCB)


FROM POWER
P.CON+5V
GND
FROM/TO HI-FI/DEMODULATOR
FSC
TO_NORMAL_A
FROM_NORMAL_A
HF1
HF_COM
HF2
FROM/TO CYL
CP101
TOC-C09X-A1
9 HF1 (R)
8 HF_COM
7 HF2 (L)
6 SP-CH1 (R)
5 SP_COM
4 SP-CH2 (L)
3 EP/LP-CH1 (R)
2 EP/LP COM
1 EP/LP-CH2 (L)
FROM/TO HEAD AUDIO CONTROL
CP102_1
IMSA-9604S-04C
4 AUDIO REC
3 AUDIO PB
2 CTL+
1 CTL-
FFC
CD102
2F041508
TO FULL ERASE HEAD
CP103
B2013H02-2P
2 FE HEAD(GND)
1 FE HEAD(HOT)
GND
HOT
AUDIO PB SW
Q101
KTC3875S_Y_RTK
AUDIO PB SW
Q102
KTC3875S_Y_RTK
SW
Q103
DTA124EKA
COIL,BIAS OSC
L101
1626010
BIAS CTL
Q105
KTA1266
BIAS OSC
Q104
KTC3203_Y
BUFFER
Q109
KTC3875S_Y_RTK
BUFFER
Q107
KTA1504S_Y_RTK
Y/C/AUDIO/CCD/HEAD AMP IC
IC101
LA71206M-MPB
X101
3.579545MHz
ENV.DET
COMP
H.AMP_SW
AUDIO_MUTE-H
C.ROTARY
H.SW
Y/C_CS
Y/C_DATA
Y/C_CLK
P.CON+5V
FSC
4FSC
FROM/TO TUNER/JACK
DVD_V_OUT[DAC_D]
TU/REAR_V_IN
Y/C_VIDEO_OUT
FSC
FROM OPERATION/DISPLAY
FRONT_V_IN
FROM/TO SYSCON
4FSC
Y/C_CLK
Y/C_DATA
Y/C_CS
DUMMY_V.SYNC
V.REC_ST-H
C.ROTARY
AUDIO_MUTE-H
CTL-
CTL+
H.AMP_SW
COMP
ENV.DET
H.SW
C.SYNC
TU/REAR_V_IN
FRONT_V_IN
DVD_V_OUT[DAC_D]
Y/C_VIDEO_OUT
C.SYNC
DUMMY_V.SYNC
P.CON+5V
V.ENV
TP101
NC
FROM_NORMAL_A
SERIAL DECODER
VXO1
320FH VCO
SLD
REC APC
PB APC
REC AFC
PLL
TIMMING
OUT
DRIVER
AUTO-BIAS
CCD
CLAMP
BGA
3.58M BPF2
C-LPF
Main CONV
B-UP AMP
ACC AMP
ACC DET
4.21M BPF
Sub CONV
CNC
PB AMP
B.D
3.58M BPF1
YNR/COMB
VIDEO AGC
VCA
CLAMP
DETAIL ENH
CLAMP
NL EMPHA
NL EMPHA
Y-LPF
N.L. DEEM
NC1
Y/C MIX
FBC
FM MOD
DOUBBLE LIM
FM DEM
SUB LPF
REC FM-EQ
FM AGC
PB FM EQ
S-EQ
MAIN DE-EM
QV/QH
6DB
SYNC SEP
V.SYNC SEP
ALC
LPF
LINE AMP
ALC DET
REC AMP
MUTE
AUTO BIAS
EQ AMP
Vref 2.3V
R136 22K
R137 12K 1/4W
R138 22K
R139 12K
C156 0.1 F
C152 16V 47 KA
R129 1.8K
R132 3.3K
C144 0.01 B
C151 1 B
C145 0.022 B
C146 1 B
C148 1 B
C142_1 16V 47 KA
C143 1 B
R126 1.8K
R133 8.2K
C147 0.022 B
R127 680K
C141 0.01 B
R131 1.5K
C154 0.1 B
W862
W863
W817
W815
W828
C166 0.068 B
C169 0.047 F
C165 0.047 F
R123 2.2K 1/4W
R124 82K
C133 1 B
R122 100K
C134 1 B
C137 1 B
C138 50V 1 YK
C139 0.1 B
C135 50V 0.22 YK
C102 25V 10 KA
R143 1K
R141 1K
C136 35V 22 YK
W801
W809
C132 1 B
C131_1 6.3V 100 KA
R144 220K 1/4W
W805
C162 1 B
R142 820
C158 1 B
W852
C105 16V 22 KA
C109 0.1 B
C129 1 B
R105 1K 1/4W
R106 680
C108 0.01 B
C174 6.3V 47 KA
R140 2.2K 1/4W
R101 560
W819
R102 10K
R103 10K
C140 15P CH
C101_1 100V 0.033 MMTS
C104 6.3V 220 KA
C106 0.01 B
C107 0.015 B
R107 3.9K
L102 100uH 0305
C112 6.3V 220 KA
R108 22K
C110_1 16V 47 YK
C116 0.1 F
C115_1 10V 33 KA
R109 1K 1/4W
R110 8.2K
R111 8.2K
R112 330K
C118 0.01 B
C117 0.01 B
C114 0.1 B
C119 25V 10 KA
R113 220
C120 1 B
C121 0.0027 B
R115 820
R114 20K
C122 0.0012 B
C123 50V 4.7 KA
R116 15K
R117 6.8K
C124 1 B
C125 390P CH
C126 0.1 B
C127 180P CH
R119 1.8K
PB.EE
REC:LP.EP
PB:EP
VREF
SP.LP
⑰
⑯
⑳
⑲
⑱
PCB010
VMD335
A B C D E F G H
8 7 6 5 4 3 2 1

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

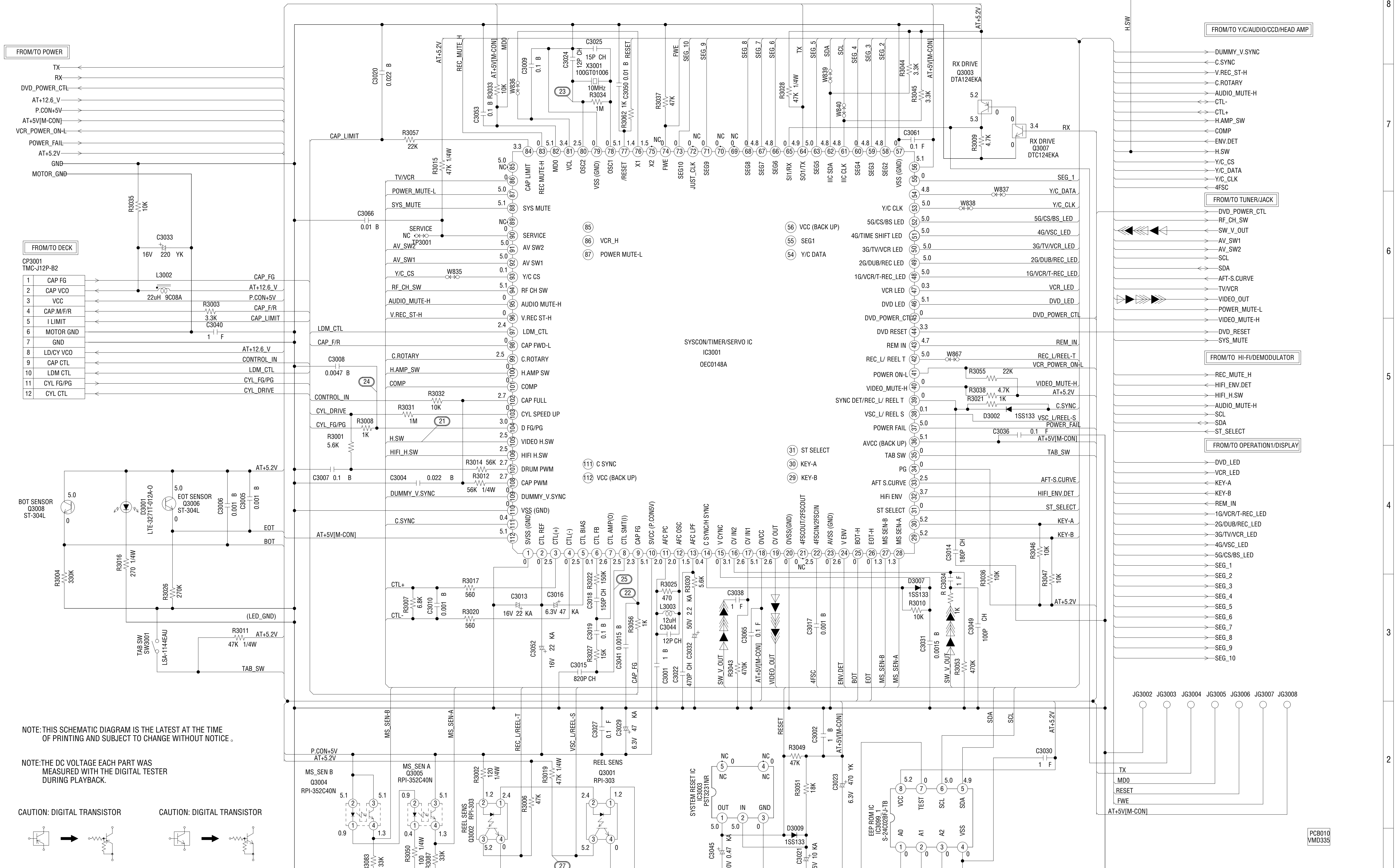
NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



⊲⊲⊲ PLAYBACK VIDEO SIGNAL
⊲⊲ RECORD COLOR SIGNAL
◀⊲ RECORD LUMINANCE SIGNAL
⇦ AUDIO SIGNAL(REC)
⬅ AUDIO SIGNAL(PB)
◁ PLAYBACK COLOR SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
◁◁ TUNER VIDEO SIGNAL

SYSCON SCHEMATIC DIAGRAM
(VCR PCB)


FROM/TO POWER
TX
RX
DVD_POWER_CTL
AT+12.6_V
P.CON+5V
AT+5V[M-CON]
VCR_POWER_ON-L
POWER_FAIL
AT+5.2V
GND
MOTOR_GND
FROM/TO DECK
CP3001
TMC-J12P-B2
1 CAP FG
2 CAP VCO
3 VCC
4 CAP.M/F/R
5 I LIMIT
6 MOTOR GND
7 GND
8 LD/CY VCO
9 CAP CTL
10 LDM CTL
11 CYL FG/PG
12 CYL CTL
BOT SENSOR
Q3008
ST-304L
D3001
LTE-3271T-012A-O
EOT SENSOR
Q3006
ST-304L
TAB SW
SW3001
LSA-1144EAU
SYSCON/TIMER/SERVO IC
IC3001
OEC0148A
X3001
100GT01006
10MHz
RX DRIVE
Q3003
DTA124EKA
RX DRIVE
Q3007
DTC124EKA
H.SW
TP3002
NC
FROM/TO Y/C/AUDIO/CCD/HEAD AMP
DUMMY_V.SYNC
C.SYNC
V.REC_ST-H
C.ROTARY
AUDIO_MUTE-H
CTL-
CTL+
H.AMP_SW
COMP
ENV.DET
H.SW
Y/C_CS
Y/C_DATA
Y/C_CLK
4FSC
FROM/TO TUNER/JACK
DVD_POWER_CTL
RF_CH_SW
SW_V_OUT
AV_SW1
AV_SW2
SCL
SDA
AFT-S.CURVE
TV/VCR
VIDEO_OUT
POWER_MUTE-L
VIDEO_MUTE-H
DVD_RESET
SYS_MUTE
FROM/TO HI-FI/DEMODULATOR
REC_MUTE_H
HIFI_ENV.DET
HIFI_H.SW
AUDIO_MUTE-H
SCL
SDA
ST_SELECT
FROM/TO OPERATION1/DISPLAY
DVD_LED
VCR_LED
KEY-A
KEY-B
REM_IN
1G/VCR/T-REC_LED
2G/DUB/REC_LED
3G/TV/VCR_LED
4G/VSC_LED
5G/CS/BS_LED
SEG_1
SEG_2
SEG_3
SEG_4
SEG_5
SEG_6
SEG_7
SEG_8
SEG_9
SEG_10
MS_SEN B
Q3004
RPI-352C40N
MS_SEN A
Q3005
RPI-352C40N
REEL SENS
Q3002
RPI-303
REEL SENS
Q3001
RPI-303
SYSTEM RESET IC
IC3003
PST3231NR
EEP ROM IC
IC3099_1
S-24C02BFJ-TB
JG3002
JG3003
JG3004
JG3005
JG3006
JG3007
JG3008
PCB010
VMD335

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

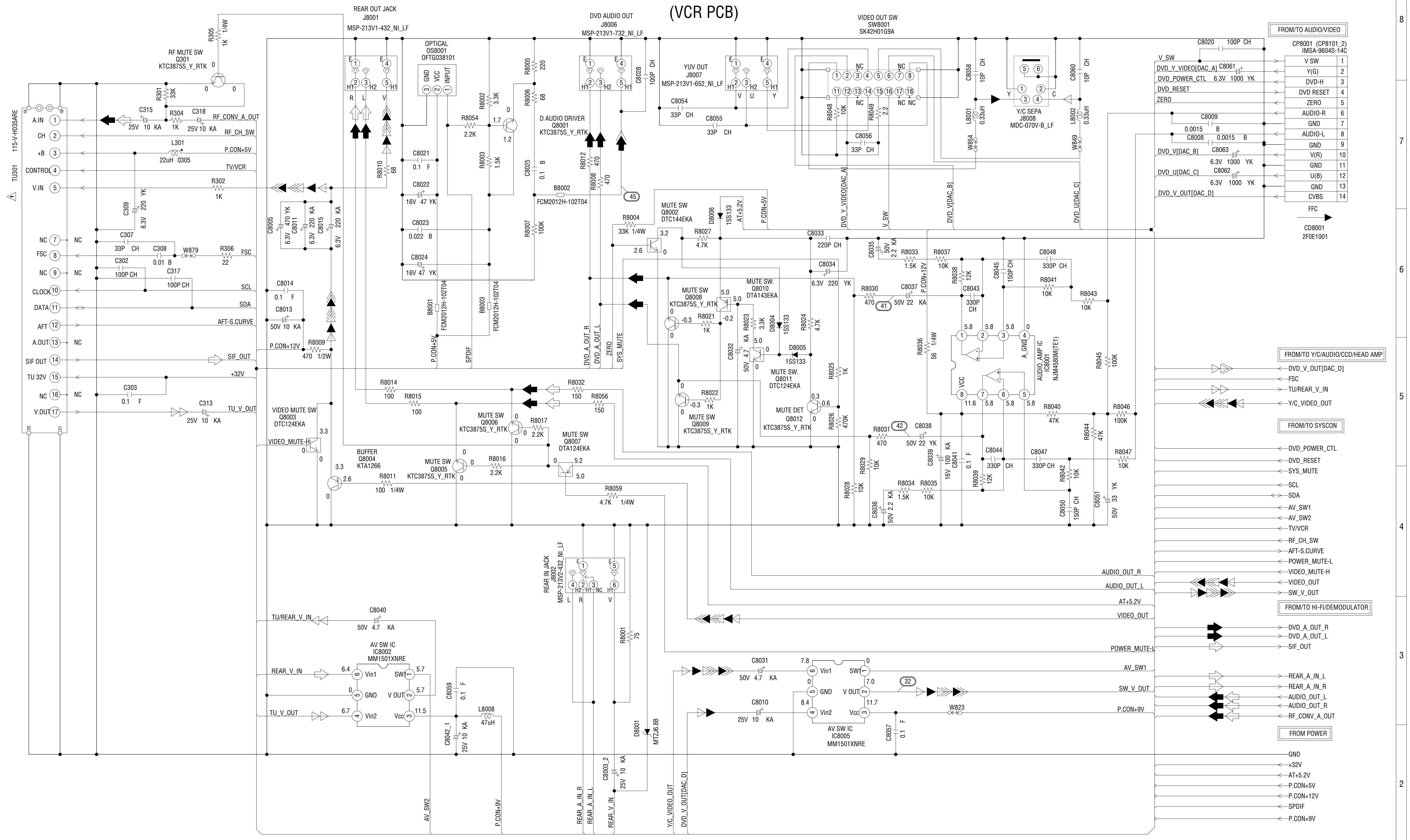
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

◀◀ RECORD LUMINANCE SIGNAL
◁◁ RECORD COLOR SIGNAL
◀ PLAYBACK LUMINANCE SIGNAL
◁ PLAYBACK COLOR SIGNAL

TUNER/JACK SCHEMATIC DIAGRAM

(VCR PCB)


A B C D E F G H
8 7 6 5 4 3 2
RF MUTE SW
Q301
KTC3875S_Y_RTK
R305 1K 1/4W
R301 33K
C315 25V 10 KA
R304 1K
C318 25V 10 KA
RF_CONV_A_OUT
RF_CH_SW
L301 22uH 0305
P.CON+5V
TV/VCR
R302 1K
TU301 115-V-H035ARE
A.IN 1
CH 2
+B 3
CONTROL 4
V.IN 5
NC 7 NC
FSC 8
NC 9 NC
CLOCK 10
DATA 11
AFT 12
A.OUT 13 NC
SIF OUT 14
TU 32V 15
NC 16 NC
V.OUT 17
C309 6.3V 220 YK
C307 33P CH
C308 0.01 B
W879
R306 22
FSC
C302 100P CH
C317 100P CH
SCL
SDA
AFT-S.CURVE
SIF_OUT
+32V
C303 0.1 F
C313 25V 10 KA
TU_V_OUT
REAR OUT JACK
J8001
MSP-213V1-432_NI_LF
R L V
OPTICAL
OS8001
OFTG038101
GND VCC INPUT
R8010 68
C8005 6.3V 470 YK
C8011 6.3V 220 KA
C8015 6.3V 220 KA
C8014 0.1 F
C8013 50V 10 KA
P.CON+12V
R8009 470 1/2W
C8021 0.1 F
C8022 16V 47 YK
C8023 0.022 B
C8024 16V 47 YK
R8054 2.2K
R8002 3.3K
R8003 1.5K
R8005 220
R8006 68
R8007 100K
C8025 0.1 B
B8002 FCM2012H-102T04
B8001 FCM2012H-102T04
B8003 FCM2012H-102T04
P.CON+5V
SPDIF
D AUDIO DRIVER
Q8001
KTC3875S_Y_RTK
DVD AUDIO OUT
J8006
MSP-213V1-732_NI_LF
C8028 100P CH
R8012 470
R8008 470
45
DVD_A_OUT_R
DVD_A_OUT_L
ZERO
SYS_MUTE
YUV OUT
J8007
MSP-213V1-652_NI_LF
V U Y
C8054 33P CH
C8055 33P CH
VIDEO OUT SW
SW8001
SK42H01G9A
NC
R8048 10K
R8049 2.2
C8056 33P CH
C8058 10P CH
L8001 0.33uH
W854
Y/C SEPA
J8008
MDC-070V-B_LF
Y C
C8060 10P CH
L8002 0.33uH
W849
DVD_Y_VIDEO[DAC_A]
V_SW
DVD_V[DAC_B]
DVD_U[DAC_C]
FROM/TO AUDIO/VIDEO
C8020 100P CH
CP8001 (CP8101_2)
IMSA-9604S-14C
V_SW
DVD_Y_VIDEO[DAC_A]
C8061
DVD_POWER_CTL 6.3V 1000 YK
DVD_RESET
ZERO
C8009 0.0015 B
C8008 0.0015 B
DVD_V[DAC_B]
C8063 6.3V 1000 YK
DVD_U[DAC_C]
C8062 6.3V 1000 YK
DVD_V_OUT[DAC_D]
V SW 1
Y(G) 2
DVD-H 3
DVD RESET 4
ZERO 5
AUDIO-R 6
GND 7
AUDIO-L 8
GND 9
V(R) 10
GND 11
U(B) 12
GND 13
CVBS 14
FFC
CD8001
2F0E1001
MUTE SW
Q8002
DTC144EKA
R8004 33K 1/4W
D8006 1SS133
AT+5.2V
P.CON+5V
R8027 4.7K
C8033 220P CH
C8034 6.3V 220 YK
C8035 50V 2.2 KA
R8033 1.5K
R8037 10K
R8038 12K
C8045 150P CH
C8048 330P CH
R8041 10K
R8043 10K
MUTE SW
Q8008
KTC3875S_Y_RTK
MUTE SW.
Q8010
DTA143EKA
R8021 1K
R8023 3.3K
D8004 1SS133
R8024 4.7K
C8032 50V 4.7 KA
D8005 1SS133
R8030 470
41
C8037 50V 22 KA
P.CON+12V
C8043 330P CH
R8036 56 1/4W
AUDIO AMP IC
IC8001
NJM4580M(TE1)
A_GND
VCC
R8045 100K
MUTE SW.
Q8011
DTC124EKA
R8022 1K
MUTE SW
Q8009
KTC3875S_Y_RTK
MUTE DET
Q8012
KTC3875S_Y_RTK
R8025 1K
R8026 470K
R8031 470
42
C8038 50V 22 YK
R8040 47K
R8046 100K
R8044 47K
C8039 16V 100 KA
C8041 0.1 F
C8044 330P CH
C8047 330P CH
R8047 10K
R8029 10K
R8028 10K
R8039 12K
R8042 10K
C8036 50V 2.2 KA
R8034 1.5K
R8035 10K
C8050 150P CH
C8051 50V 33 YK
R8014 100
R8015 100
R8032 150
R8056 150
VIDEO MUTE SW
Q8003
DTC124EKA
VIDEO_MUTE-H
MUTE SW
Q8006
KTC3875S_Y_RTK
R8017 2.2K
MUTE SW
Q8007
DTA124EKA
BUFFER
Q8004
KTA1266
MUTE SW
Q8005
KTC3875S_Y_RTK
R8016 2.2K
R8011 100 1/4W
R8059 4.7K 1/4W
FROM/TO Y/C/AUDIO/CCD/HEAD AMP
DVD_V_OUT[DAC_D]
FSC
TU/REAR_V_IN
Y/C_VIDEO_OUT
FROM/TO SYSCON
DVD_POWER_CTL
DVD_RESET
SYS_MUTE
SCL
SDA
AV_SW1
AV_SW2
TV/VCR
RF_CH_SW
AFT-S.CURVE
POWER_MUTE-L
VIDEO_MUTE-H
VIDEO_OUT
SW_V_OUT
FROM/TO HI-FI/DEMODULATOR
DVD_A_OUT_R
DVD_A_OUT_L
SIF_OUT
REAR_A_IN_L
REAR_A_IN_R
AUDIO_OUT_L
AUDIO_OUT_R
RF_CONV_A_OUT
FROM POWER
GND
+32V
AT+5.2V
P.CON+5V
P.CON+12V
SPDIF
P.CON+9V
REAR IN JACK
J8002
MSP-213V2-432_NI_LF
L R V
AUDIO_OUT_R
AUDIO_OUT_L
AT+5.2V
VIDEO_OUT
R8001 75
POWER_MUTE-L
TU/REAR_V_IN
C8040 50V 4.7 KA
AV SW IC
IC8002
MM1501XNRE
REAR_V_IN
Vin1 SW1
GND V OUT
Vin2 Vcc
TU_V_OUT
C8059 0.1 F
L8008 47uH
C8042_1 25V 10 KA
D8001 MTZJ6.8B
C8003_2 25V 10 KA
AV_SW2
P.CON+9V
REAR_A_IN_R
REAR_A_IN_L
REAR_V_IN
Y/C_VIDEO_OUT
DVD_V_OUT[DAC_D]
C8031 50V 4.7 KA
C8010 25V 10 KA
AV SW IC
IC8005
MM1501XNRE
32
AV_SW1
SW_V_OUT
W823
P.CON+9V
C8057 0.1 F

PCB010
VMD335

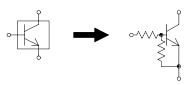
NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE:THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

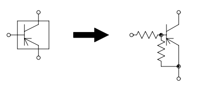
ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES。

CAUTION:SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY 。

CAUTION: DIGITAL TRANSISTOR



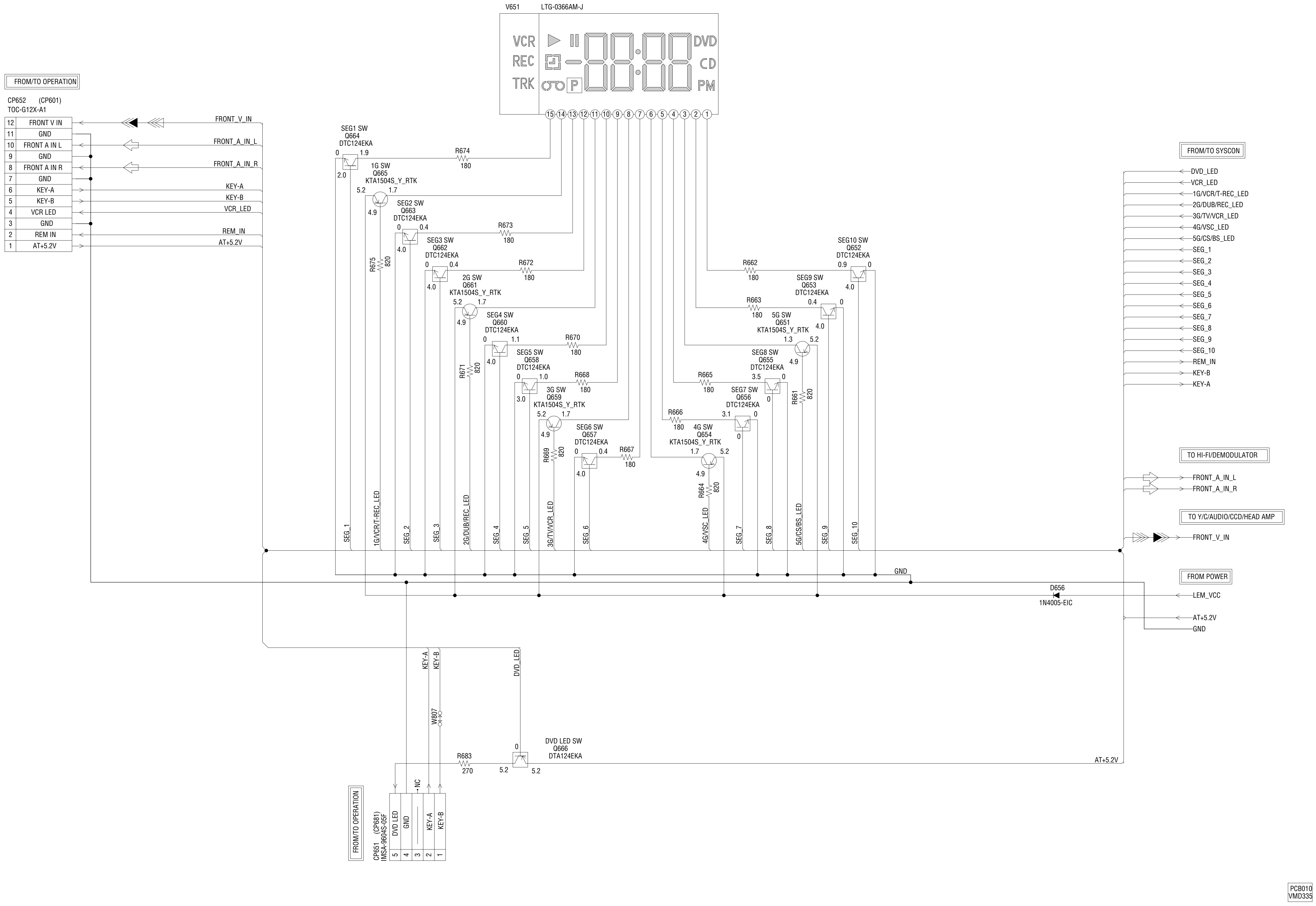
CAUTION: DIGITAL TRANSISTOR



PLAYBACK VIDEO SIGNAL
TUNER VIDEO SIGNAL
PLAYBACK LUMINANCE SIGNAL
PLAYBACK COLOR SIGNAL
RECORD COLOR SIGNAL
RECORD LUMINANCE SIGNAL
AUDIO SIGNAL(REC)
AUDIO SIGNAL(PB)

OPERATION/DISPLAY SCHEMATIC DIAGRAM

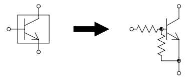
(VCR PCB)


V651
LTG-0366AM-J
VCR
REC
TRK
DVD
CD
PM
FROM/TO OPERATION
CP652 (CP601)
TOC-G12X-A1
12 FRONT V IN
11 GND
10 FRONT A IN L
9 GND
8 FRONT A IN R
7 GND
6 KEY-A
5 KEY-B
4 VCR LED
3 GND
2 REM IN
1 AT+5.2V
FRONT_V_IN
FRONT_A_IN_L
FRONT_A_IN_R
KEY-A
KEY-B
VCR_LED
REM_IN
AT+5.2V
SEG1 SW Q664 DTC124EKA
1G SW Q665 KTA1504S_Y_RTK
SEG2 SW Q663 DTC124EKA
SEG3 SW Q662 DTC124EKA
2G SW Q661 KTA1504S_Y_RTK
SEG4 SW Q660 DTC124EKA
SEG5 SW Q658 DTC124EKA
3G SW Q659 KTA1504S_Y_RTK
SEG6 SW Q657 DTC124EKA
SEG10 SW Q652 DTC124EKA
SEG9 SW Q653 DTC124EKA
5G SW Q651 KTA1504S_Y_RTK
SEG8 SW Q655 DTC124EKA
SEG7 SW Q656 DTC124EKA
4G SW Q654 KTA1504S_Y_RTK
R674 180
R673 180
R672 180
R670 180
R668 180
R667 180
R662 180
R663 180
R665 180
R666 180
R675 820
R671 820
R669 820
R661 820
R664 820
SEG_1
1G/VCR/T-REC_LED
SEG_2
SEG_3
2G/DUB/REC_LED
SEG_4
SEG_5
3G/TV/VCR_LED
SEG_6
4G/VSC_LED
SEG_7
SEG_8
5G/CS/BS_LED
SEG_9
SEG_10
GND
FROM/TO SYSCON
DVD_LED
VCR_LED
1G/VCR/T-REC_LED
2G/DUB/REC_LED
3G/TV/VCR_LED
4G/VSC_LED
5G/CS/BS_LED
SEG_1
SEG_2
SEG_3
SEG_4
SEG_5
SEG_6
SEG_7
SEG_8
SEG_9
SEG_10
REM_IN
KEY-B
KEY-A
TO HI-FI/DEMODULATOR
FRONT_A_IN_L
FRONT_A_IN_R
TO Y/C/AUDIO/CCD/HEAD AMP
FRONT_V_IN
FROM POWER
D656
1N4005-EIC
LEM_VCC
AT+5.2V
GND
KEY-A
KEY-B
DVD_LED
W807
R683 270
DVD LED SW Q666 DTA124EKA
AT+5.2V
NC
FROM/TO OPERATION
CP651 (CP681)
IMSA-9604S-05F
5 DVD LED
4 GND
3
2 KEY-A
1 KEY-B
PCB010
VMD335

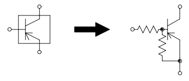
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR



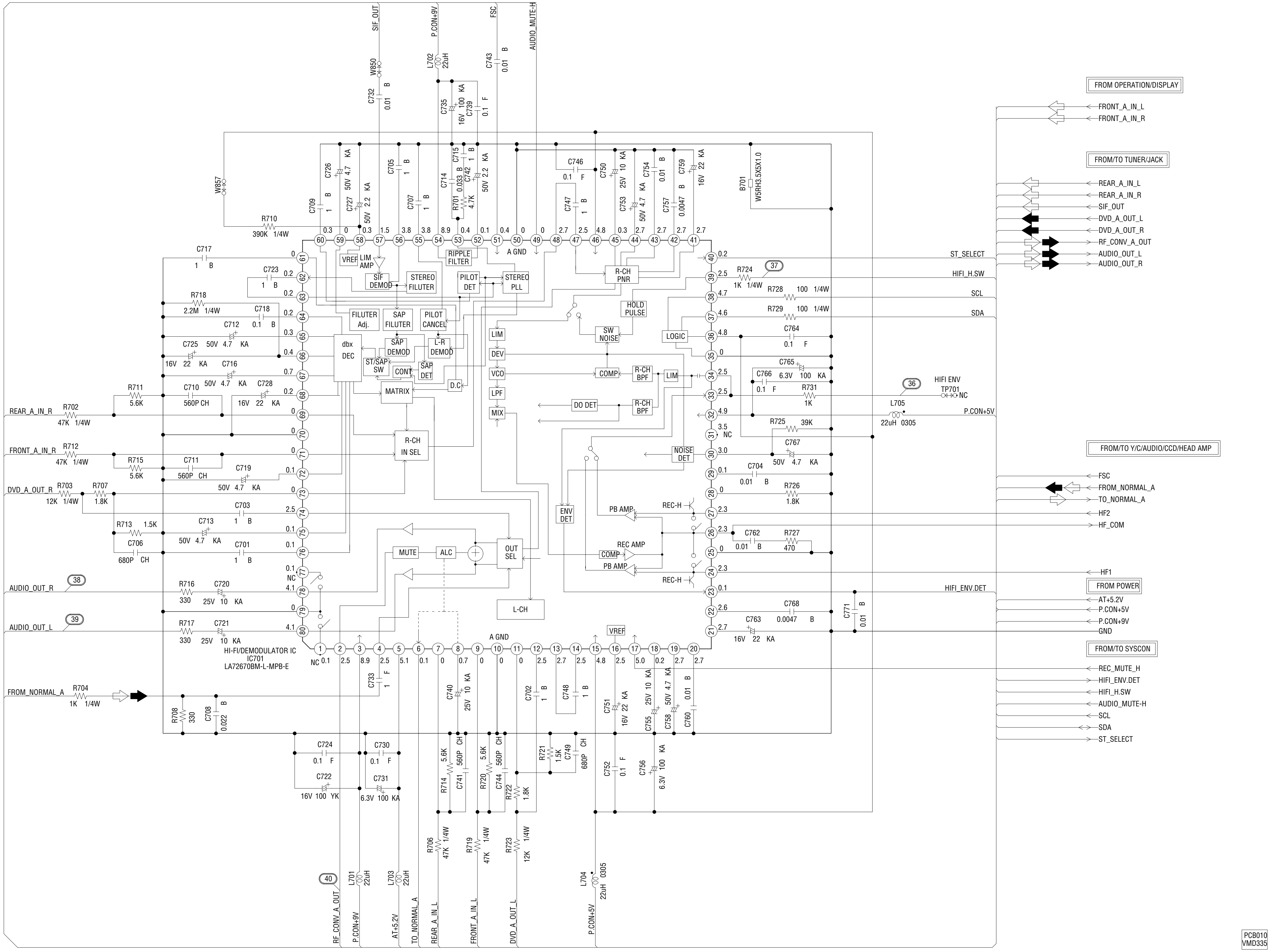
⇦ AUDIO SIGNAL(REC)

⋘ RECORD COLOR SIGNAL

◀ RECORD LUMINANCE SIGNAL

Hi-Fi/DEMODULATOR SCHEMATIC DIAGRAM

(VCR PCB)


SIF_OUT
P.CON+9V
FSC
AUDIO_MUTE-H
W850
L702 22uH
C743 0.01 B
C732 0.01 B
C735 16V 100 KA
C739 0.1 F
W857
R710 390K 1/4W
C709 1 B
C726 50V 4.7 KA
C727 50V 2.2 KA
C705 1 B
C707 1 B
C714 0.033 B
C715 1 B
C742 50V 2.2 KA
R701 4.7K
C746 0.1 F
C747 1 B
C750 25V 10 KA
C753 50V 4.7 KA
C754 0.01 B
C757 0.0047 B
C759 16V 22 KA
B701 W5RH3.5X5X1.0
C717 1 B
C723 1 B
R718 2.2M 1/4W
C718 0.1 B
C712 50V 4.7 KA
C725 16V 22 KA
C716 50V 4.7 KA
C728 16V 22 KA
R711 5.6K
C710 560P CH
REAR_A_IN_R
R702 47K 1/4W
FRONT_A_IN_R
R712 47K 1/4W
R715 5.6K
C711 560P CH
C719 50V 4.7 KA
DVD_A_OUT_R
R703 12K 1/4W
R707 1.8K
C703 1 B
R713 1.5K
C713 50V 4.7 KA
C706 680P CH
C701 1 B
AUDIO_OUT_R
38
R716 330
C720 25V 10 KA
AUDIO_OUT_L
39
R717 330
C721 25V 10 KA
HI-FI/DEMODULATOR IC
IC701
LA72670BM-L-MPB-E
FROM_NORMAL_A
R704 1K 1/4W
R708 330
C708 0.022 B
C733 1 F
C740 25V 10 KA
C702 1 B
C748 1 B
C751 16V 22 KA
C755 25V 10 KA
C758 50V 4.7 KA
C760 0.01 B
C724 0.1 F
C730 0.1 F
C722 16V 100 YK
C731 6.3V 100 KA
R714 5.6K
C741 560P CH
R720 5.6K
C744 560P CH
R722 1.8K
R721 1.5K
C749 680P CH
C752 0.1 F
C756 6.3V 100 KA
R706 47K 1/4W
R719 47K 1/4W
R723 12K 1/4W
40
L701 22uH
L703 22uH
L704 22uH 0305
RF_CONV_A_OUT
P.CON+9V
AT+5.2V
TO_NORMAL_A
REAR_A_IN_L
FRONT_A_IN_L
DVD_A_OUT_L
P.CON+5V
VREF
LIM AMP
SIF DEMOD
STEREO FILUTER
RIPPLE FILTER
PILOT DET
STEREO PLL
R-CH PNR
A GND
FILUTER Adj.
SAP FILUTER
PILOT CANCEL
HOLD PULSE
dbx DEC
SAP DEMOD
L-R DEMOD
ST/SAP SW
CONT
SAP DET
MATRIX
D.C
LIM
DEV
VCO
LPF
MIX
SW NOISE
COMP
R-CH BPF
LIM
DO DET
R-CH BPF
LOGIC
R-CH IN SEL
NOISE DET
ENV DET
PB AMP
REC-H
REC AMP
COMP
PB AMP
REC-H
MUTE
ALC
OUT SEL
L-CH
VREF
NC
ST_SELECT
HIFI_H.SW
SCL
SDA
R724 1K 1/4W
37
R728 100 1/4W
R729 100 1/4W
C764 0.1 F
C765 6.3V 100 KA
C766 0.1 F
R731 1K
36
HIFI ENV
TP701
NC
L705 22uH 0305
P.CON+5V
R725 39K
C767 50V 4.7 KA
C704 0.01 B
R726 1.8K
C762 0.01 B
R727 470
C768 0.0047 B
C771 0.01 B
C763 16V 22 KA
HIFI_ENV.DET
FROM OPERATION/DISPLAY
FRONT_A_IN_L
FRONT_A_IN_R
FROM/TO TUNER/JACK
REAR_A_IN_L
REAR_A_IN_R
SIF_OUT
DVD_A_OUT_L
DVD_A_OUT_R
RF_CONV_A_OUT
AUDIO_OUT_L
AUDIO_OUT_R
FROM/TO Y/C/AUDIO/CCD/HEAD AMP
FSC
FROM_NORMAL_A
TO_NORMAL_A
HF2
HF_COM
HF1
FROM POWER
AT+5.2V
P.CON+5V
P.CON+9V
GND
FROM/TO SYSCON
REC_MUTE_H
HIFI_ENV.DET
HIFI_H.SW
AUDIO_MUTE-H
SCL
SDA
ST_SELECT
PCB010
VMD335

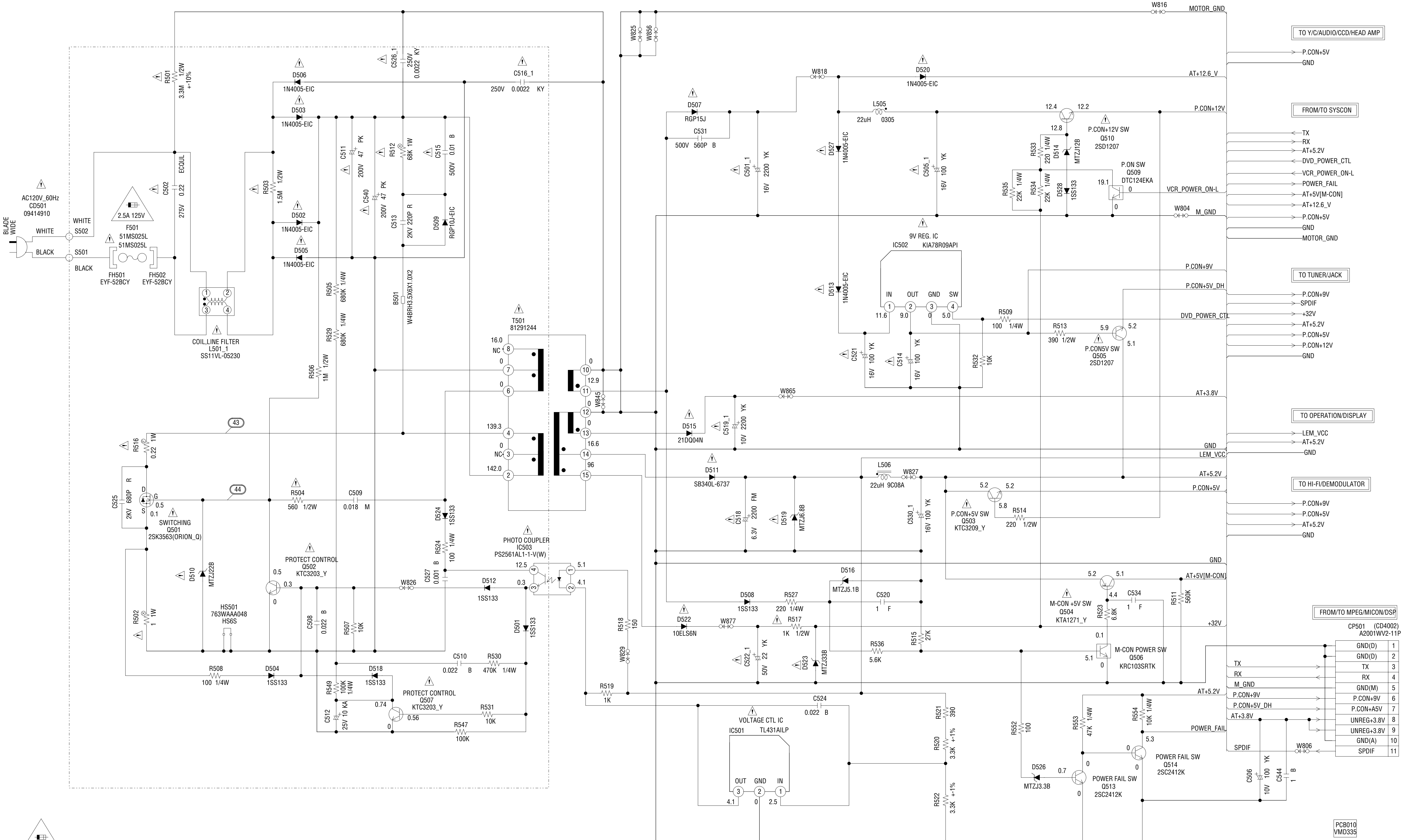
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

⇦ AUDIO SIGNAL(REC)

⬅ AUDIO SIGNAL(PB)

POWER SCHEMATIC DIAGRAM
(VCR PCB)


AC120V_60Hz
CD501
09414910
BLADE WIDE
WHITE
BLACK
S502
S501
F501
51MS025L
51MS025L
2.5A 125V
FH501
EYF-52BCY
FH502
EYF-52BCY
C502
0.22
275V
ECQUL
COIL,LINE FILTER
L501_1
SS11VL-05230
R501
3.3M 1/2W +-10%
R503
1.5M 1/2W
D506
1N4005-EIC
D503
1N4005-EIC
D502
1N4005-EIC
D505
1N4005-EIC
C511
47 PK 200V
C540
47 PK 200V
C513
2KV 220P R
R512
68K 1W
C515
0.01 B 500V
D509
RGP10J-EIC
C526_1
250V 0.0022 KY
C516_1
250V 0.0022 KY
B501
W4BRH3.5X6X1.0X2
R505
680K 1/4W
R529
680K 1/4W
R506
1M 1/2W
T501
81291244
16.0
NC
0
139.3
142.0
12.9
16.6
96
W845
R516
0.22 1W
43
44
C525
2KV 680P R
SWITCHING
Q501
2SK3563(ORION_Q)
0.5
0.1
R504
560 1/2W
C509
0.018 M
D510
MTZJ22B
HS501
763WAAA048
HS6S
R502
1 1W
PROTECT CONTROL
Q502
KTC3203_Y
0.3
C508
0.022 B
R507
10K
W826
C527
0.001 B
D512
1SS133
D524
1SS133
R524
100 1/4W
PHOTO COUPLER
IC503
PS2561AL1-1-V(W)
12.5
5.1
4.1
D501
1SS133
R508
100 1/4W
D504
1SS133
D518
1SS133
C510
0.022 B
R530
470K 1/4W
R549
100K 1/4W
C512
25V 10 KA
PROTECT CONTROL
Q507
KTC3203_Y
0.74
0.56
R531
10K
R547
100K
R518
150
W829
R519
1K
W825
W856
W816
MOTOR_GND
W818
D520
1N4005-EIC
AT+12.6_V
D507
RGP15J
C531
500V 560P B
C501_1
16V 2200 YK
D527
1N4005-EIC
L505
22uH 0305
C505_1
16V 100 YK
12.4
12.2
12.8
P.CON+12V SW
Q510
2SD1207
P.CON+12V
R533
220 1/4W
D514
MTZJ12B
R535
22K 1/4W
R534
22K 1/4W
D528
1SS133
P.ON SW
Q509
DTC124EKA
19.1
VCR_POWER_ON-L
W804
M_GND
9V REG. IC
IC502
KIA78R09API
IN OUT GND SW
11.6
9.0
5.0
D513
1N4005-EIC
C521
16V 100 YK
C514
16V 100 YK
R532
10K
R509
100 1/4W
R513
390 1/2W
P.CON5V SW
Q505
2SD1207
5.9
5.2
P.CON+9V
P.CON+5V_DH
DVD_POWER_CTL
W865
AT+3.8V
D515
21DQ04N
C519_1
10V 2200 YK
GND
LEM_VCC
D511
SB340L-6737
L506
22uH 9C08A
W827
C518
6.3V 2200 FM
D519
MTZJ6.8B
C530_1
16V 100 YK
P.CON+5V SW
Q503
KTC3209_Y
5.8
R514
220 1/2W
AT+5.2V
P.CON+5V
D516
MTZJ5.1B
D508
1SS133
R527
220 1/4W
C520
1 F
AT+5V[M-CON]
M-CON +5V SW
Q504
KTA1271_Y
4.4
C534
1 F
R523
6.8K
R511
560K
D522
10ELS6N
W877
R517
1K 1/2W
R515
27K
+32V
C522_1
50V 22 YK
D523
MTZJ33B
R536
5.6K
M-CON POWER SW
Q506
KRC103SRTK
C524
0.022 B
VOLTAGE CTL IC
IC501
TL431AILP
OUT GND IN
4.1
2.5
R521
390
R520
3.3K +-1%
R522
3.3K +-1%
R552
100
D526
MTZJ3.3B
R553
47K 1/4W
R554
10K 1/4W
POWER FAIL SW
Q513
2SC2412K
POWER FAIL SW
Q514
2SC2412K
POWER_FAIL
SPDIF
W806
C506
10V 100 YK
C544
1 B
TO Y/C/AUDIO/CCD/HEAD AMP
P.CON+5V
GND
FROM/TO SYSCON
TX
RX
AT+5.2V
DVD_POWER_CTL
VCR_POWER_ON-L
POWER_FAIL
AT+5V[M-CON]
AT+12.6_V
P.CON+5V
GND
MOTOR_GND
TO TUNER/JACK
P.CON+9V
SPDIF
+32V
AT+5.2V
P.CON+5V
P.CON+12V
GND
TO OPERATION/DISPLAY
LEM_VCC
AT+5.2V
GND
TO HI-FI/DEMODULATOR
P.CON+9V
P.CON+5V
AT+5.2V
GND
FROM/TO MPEG/MICON/DSP
CP501 (CD4002)
A2001WV2-11P
GND(D) 1
GND(D) 2
TX 3
RX 4
GND(M) 5
P.CON+9V 6
P.CON+A5V 7
UNREG+3.8V 8
UNREG+3.8V 9
GND(A) 10
SPDIF 11
M_GND
P.CON+5V_DH
AT+3.8V
PCB010
VMD335

2.5A 125V

CAUTION :FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE 2.5A 125V(F501).

ATTENTION :POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE
N'UTILISER QUE DES FUSIBLE DE MEME TYPE 2.5A 125V(F501).

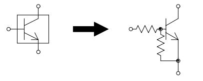
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT
DANGEREUSES AN POINT DE VUE SECURITE
N'UTILISER QUE CELLS DECRITES
DANS LA NOMENCLATURE DES PIECES。

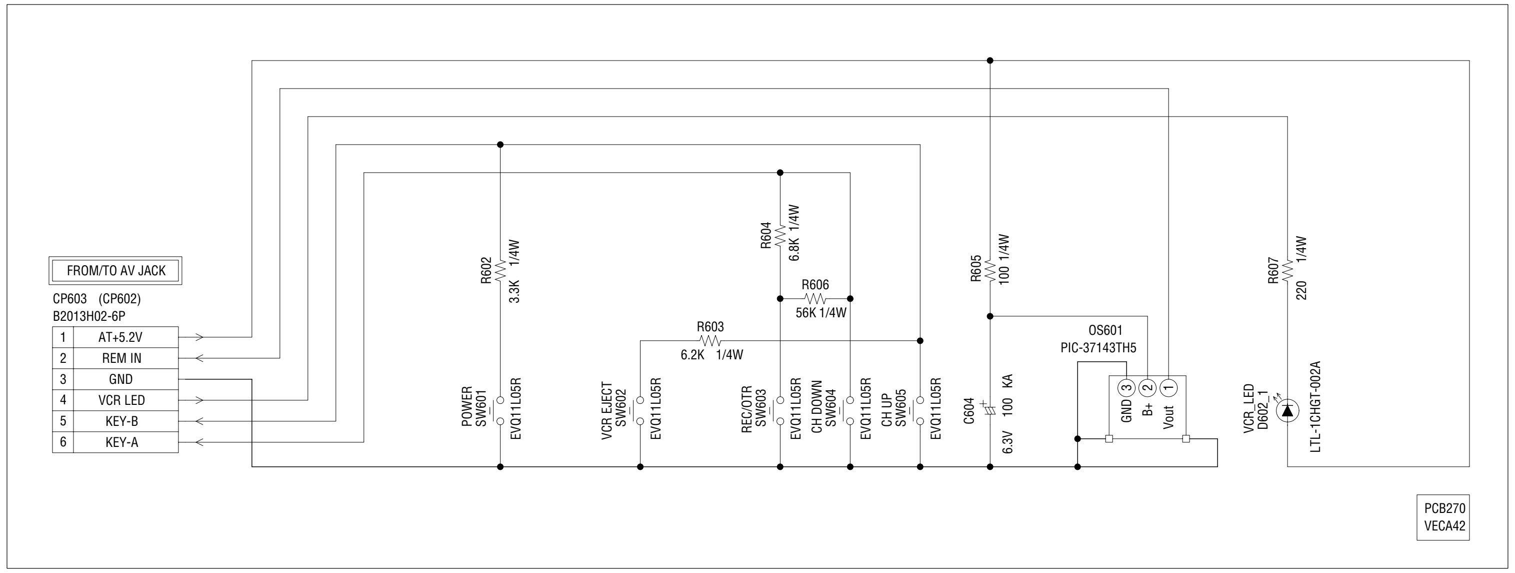
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE
CRITICAL FOR SAFETY,USE ONES
DESCRIBED IN PARTS LIST ONLY 。

CAUTION: DIGITAL TRANSISTOR

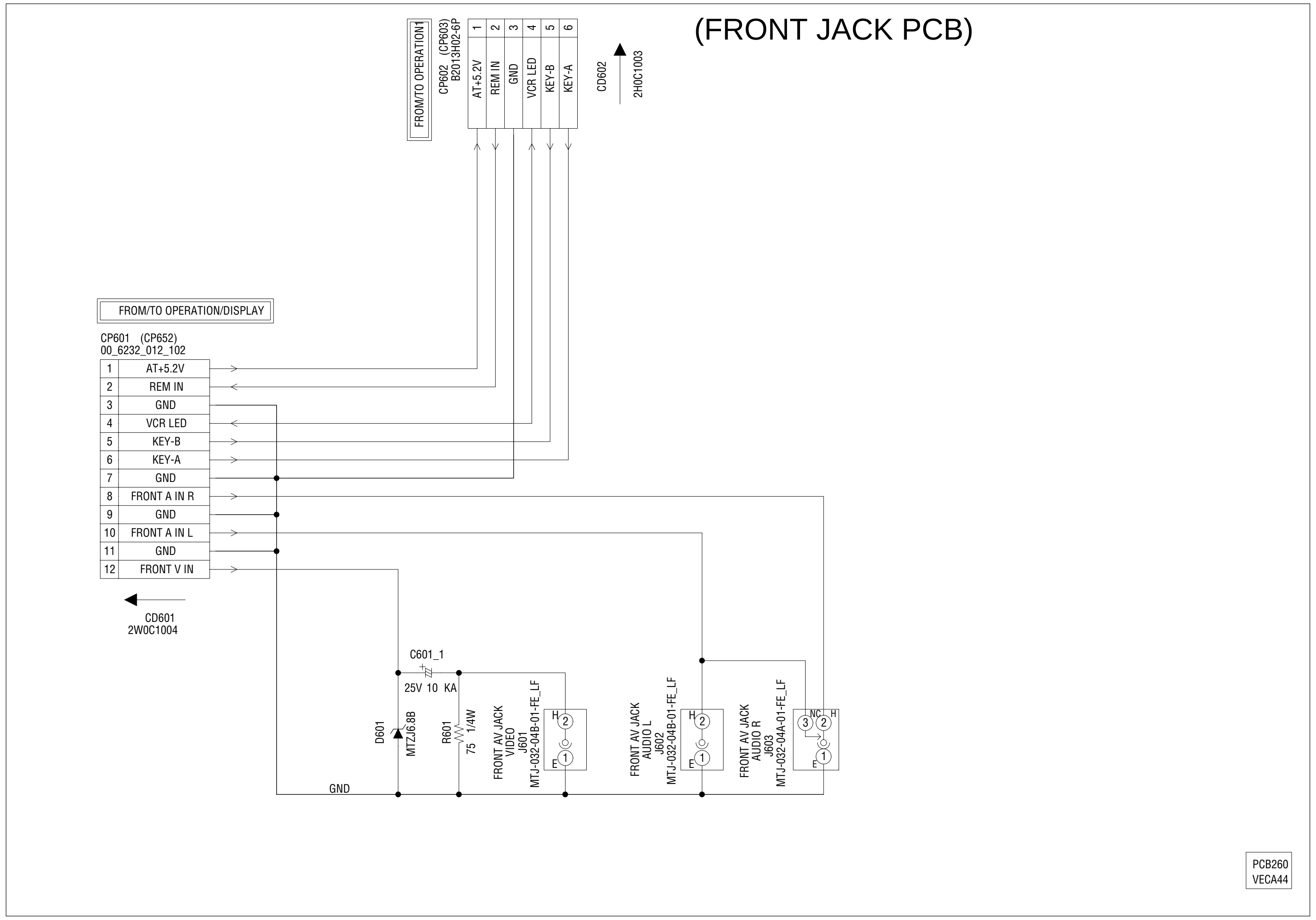


OPERATION SCHEMATIC DIAGRAM

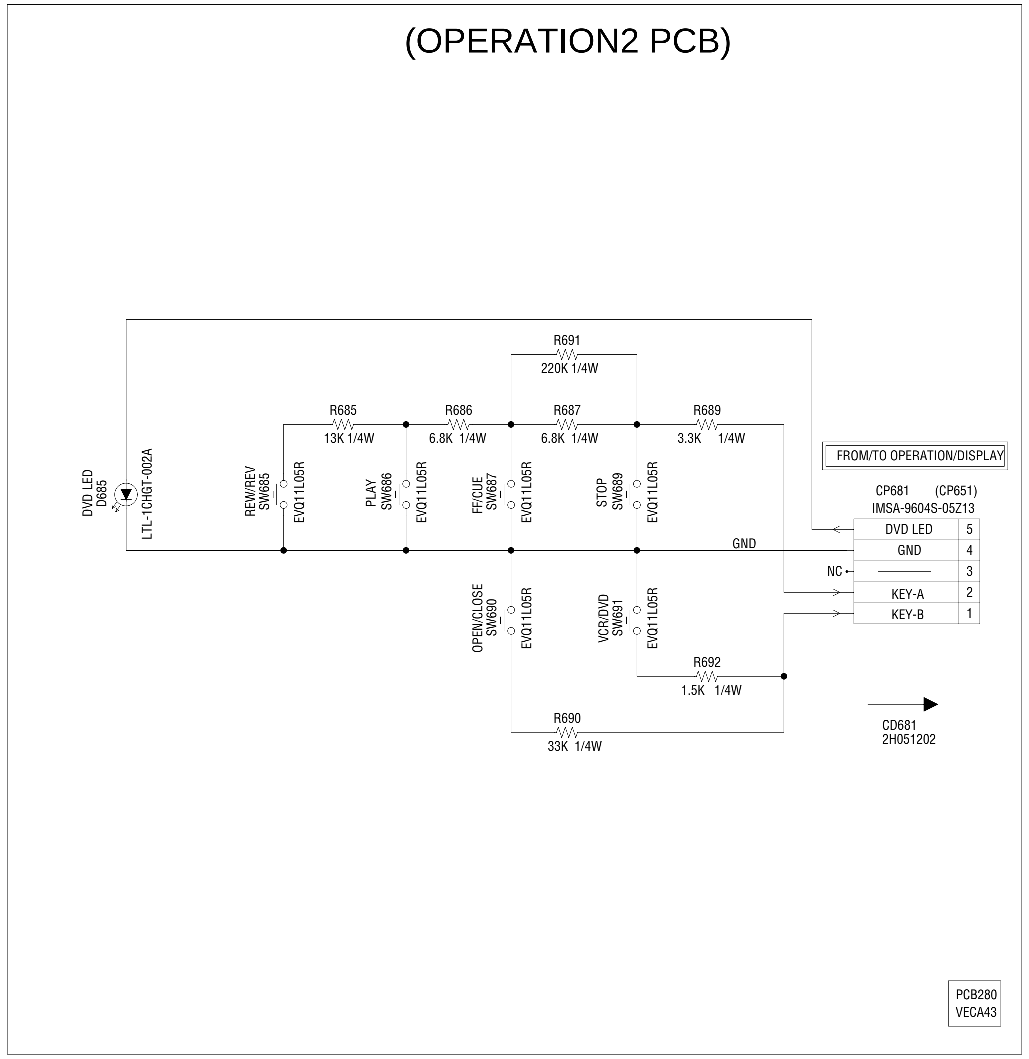
(OPERATION1 PCB)


FROM/TO AV JACK
CP603 (CP602)
B2013H02-6P
1 AT+5.2V
2 REM IN
3 GND
4 VCR LED
5 KEY-B
6 KEY-A
R602 3.3K 1/4W
POWER SW601 EVQ11L05R
R603 6.2K 1/4W
VCR EJECT SW602 EVQ11L05R
R604 6.8K 1/4W
R606 56K 1/4W
REC/OTR SW603 EVQ11L05R
CH DOWN SW604 EVQ11L05R
CH UP SW605 EVQ11L05R
R605 100 1/4W
C604 6.3V 100 KA
OS601 PIC-37143TH5
GND 3
B+ 2
Vout 1
R607 220 1/4W
VCR LED D602_1 LTL-1CHGT-002A
PCB270 VECA42

(FRONT JACK PCB)


FROM/TO OPERATION1
CP602 (CP603) B2013H02-6P
1 AT+5.2V
2 REM IN
3 GND
4 VCR LED
5 KEY-B
6 KEY-A
CD602 2H0C1003
FROM/TO OPERATION/DISPLAY
CP601 (CP652)
00_6232_012_102
1 AT+5.2V
2 REM IN
3 GND
4 VCR LED
5 KEY-B
6 KEY-A
7 GND
8 FRONT A IN R
9 GND
10 FRONT A IN L
11 GND
12 FRONT V IN
CD601 2W0C1004
C601_1 25V 10 KA
D601 MTZJ6.8B
R601 75 1/4W
FRONT AV JACK VIDEO J601 MTJ-032-04B-01-FE_LF
FRONT AV JACK AUDIO L J602 MTJ-032-04B-01-FE_LF
FRONT AV JACK AUDIO R J603 MTJ-032-04A-01-FE_LF
H
E
NC
GND
PCB260 VECA44

(OPERATION2 PCB)

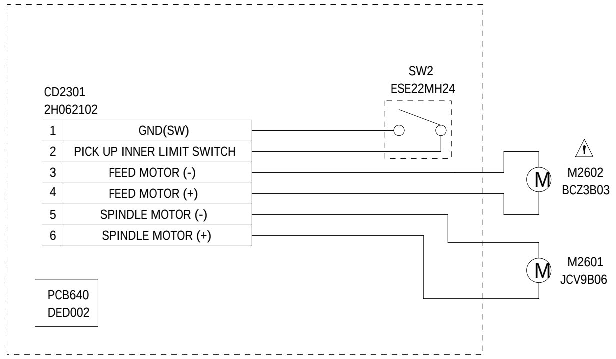

R691 220K 1/4W
R685 13K 1/4W
R686 6.8K 1/4W
R687 6.8K 1/4W
R689 3.3K 1/4W
DVD LED D685 LTL-1CHGT-002A
REW/REV SW685 EVQ11L05R
PLAY SW686 EVQ11L05R
FF/CUE SW687 EVQ11L05R
STOP SW689 EVQ11L05R
OPEN/CLOSE SW690 EVQ11L05R
VCR/DVD SW691 EVQ11L05R
R692 1.5K 1/4W
R690 33K 1/4W
GND
FROM/TO OPERATION/DISPLAY
CP681 (CP651)
IMSA-9604S-05Z13
DVD LED 5
GND 4
——— 3
KEY-A 2
KEY-B 1
NC
CD681 2H051202
PCB280 VECA43

NOTE: THE DC VOLTAGE EACH PART WAS
MEASURED WITH THE DIGITAL TESTER
DURING PLAYBACK.

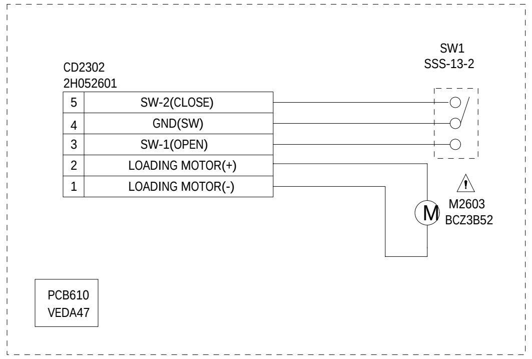
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

LOADING MOTOR/SW SCHEMATIC DIAGRAM

(SW PCB)

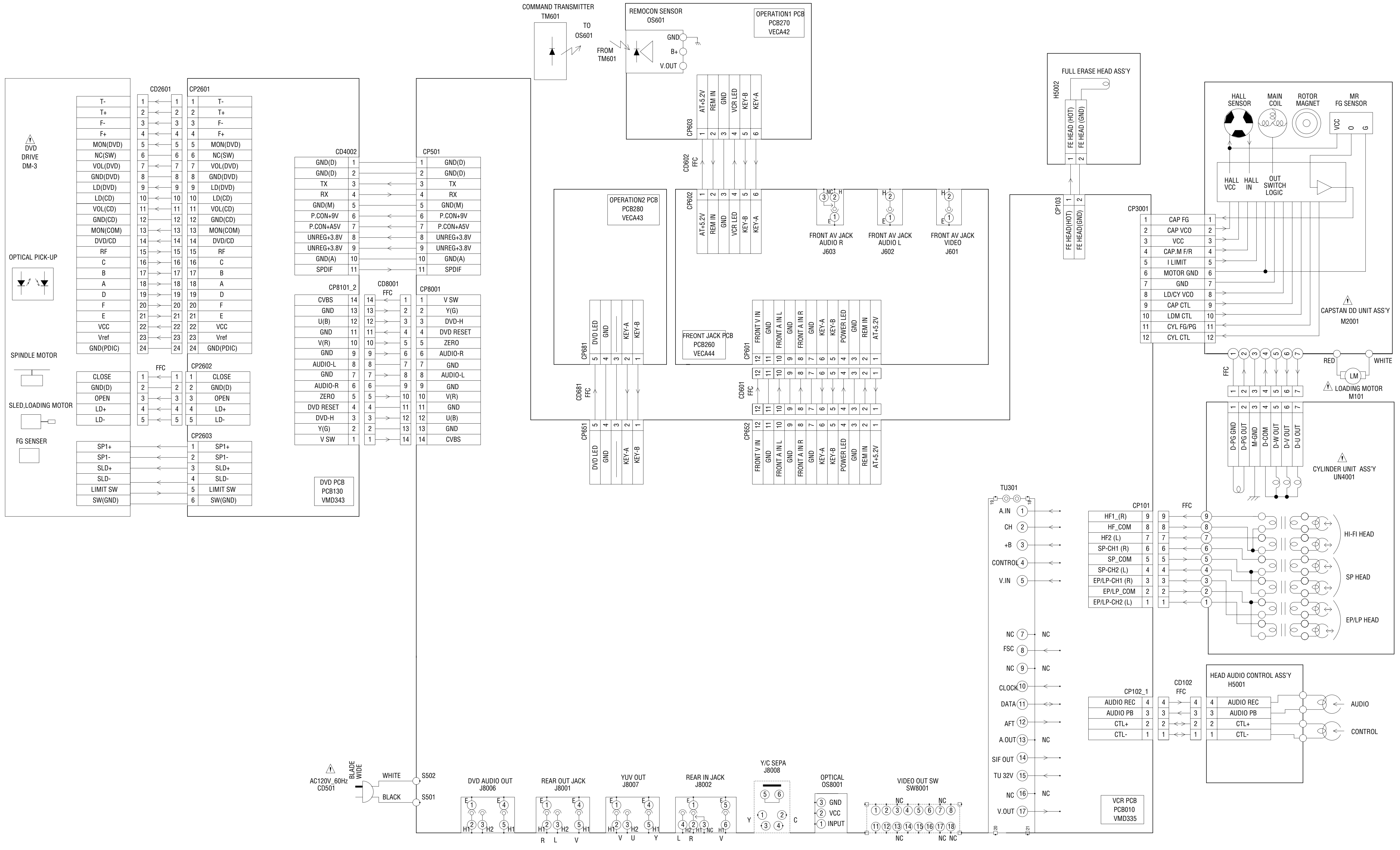

SW2
ESE22MH24
CD2301
2H062102
1 GND(SW)
2 PICK UP INNER LIMIT SWITCH
3 FEED MOTOR (-)
4 FEED MOTOR (+)
5 SPINDLE MOTOR (-)
6 SPINDLE MOTOR (+)
M
M2602
BCZ3B03
M
M2601
JCV9B06
PCB640
DED002

(LOADING MOTOR PCB)


SW1
SSS-13-2
CD2302
2H052601
5 SW-2(CLOSE)
4 GND(SW)
3 SW-1(OPEN)
2 LOADING MOTOR(+)
1 LOADING MOTOR(-)
M
M2603
BCZ3B52
PCB610
VEDA47

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME
OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

INTERCONNECTION DIAGRAM


COMMAND TRANSMITTER
TM601
TO
OS601
FROM
TM601
REMOCON SENSOR
OS601
GND
B+
V.OUT
OPERATION1 PCB
PCB270
VECA42
CP603
AT+5.2V
REM IN
GND
VCR LED
KEY-B
KEY-A
CD602
FFC
CP602
FULL ERASE HEAD ASS'Y
H5002
FE HEAD (HOT)
FE HEAD (GND)
CP103
FE HEAD(HOT)
FE HEAD(GND)
DVD
DRIVE
DM-3
OPTICAL PICK-UP
SPINDLE MOTOR
SLED,LOADING MOTOR
FG SENSER
CD2601
CP2601
T-
T+
F-
F+
MON(DVD)
NC(SW)
VOL(DVD)
GND(DVD)
LD(DVD)
LD(CD)
VOL(CD)
GND(CD)
MON(COM)
DVD/CD
RF
C
B
A
D
F
E
VCC
Vref
GND(PDIC)
FFC
CP2602
CLOSE
GND(D)
OPEN
LD+
LD-
CP2603
SP1+
SP1-
SLD+
SLD-
LIMIT SW
SW(GND)
CD4002
CP501
GND(D)
TX
RX
GND(M)
P.CON+9V
P.CON+A5V
UNREG+3.8V
GND(A)
SPDIF
CP8101_2
CD8001
FFC
CP8001
CVBS
GND
U(B)
V(R)
AUDIO-L
AUDIO-R
ZERO
DVD RESET
DVD-H
Y(G)
V SW
DVD PCB
PCB130
VMD343
OPERATION2 PCB
PCB280
VECA43
CP681
DVD LED
GND
KEY-A
KEY-B
CD681
FFC
CP651
FREONT JACK PCB
PCB260
VECA44
CP601
FRONT V IN
FRONT A IN L
FRONT A IN R
POWER LED
REM IN
AT+5.2V
CD601
FFC
CP652
FRONT AV JACK
AUDIO R
J603
FRONT AV JACK
AUDIO L
J602
FRONT AV JACK
VIDEO
J601
NC
H
E
CP3001
CAP FG
CAP VCO
VCC
CAP.M F/R
I LIMIT
MOTOR GND
GND
LD/CY VCO
CAP CTL
LDM CTL
CYL FG/PG
CYL CTL
HALL
SENSOR
MAIN
COIL
ROTOR
MAGNET
MR
FG SENSOR
VCC
0
G
HALL
VCC
HALL
IN
OUT
SWITCH
LOGIC
CAPSTAN DD UNIT ASS'Y
M2001
FFC
RED
WHITE
LM
LOADING MOTOR
M101
D-PG GND
D-PG OUT
M-GND
D-COM
D-W OUT
D-V OUT
D-U OUT
CYLINDER UNIT ASS'Y
UN4001
TU301
A.IN
CH
+B
CONTROL
V.IN
NC
FSC
CLOCK
DATA
AFT
A.OUT
SIF OUT
TU 32V
V.OUT
CP101
FFC
HF1_(R)
HF_COM
HF2 (L)
SP-CH1 (R)
SP_COM
SP-CH2 (L)
EP/LP-CH1 (R)
EP/LP_COM
EP/LP-CH2 (L)
HI-FI HEAD
SP HEAD
EP/LP HEAD
CP102_1
CD102
FFC
HEAD AUDIO CONTROL ASS'Y
H5001
AUDIO REC
AUDIO PB
CTL+
CTL-
AUDIO
CONTROL
AC120V_60Hz
CD501
BLADE
WIDE
WHITE
BLACK
S502
S501
DVD AUDIO OUT
J8006
REAR OUT JACK
J8001
YUV OUT
J8007
REAR IN JACK
J8002
Y/C SEPA
J8008
OPTICAL
OS8001
GND
VCC
INPUT
VIDEO OUT SW
SW8001
R
L
V
U
Y
C
H1
H2
VCR PCB
PCB010
VMD335

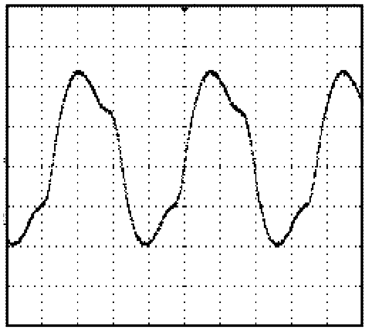
NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

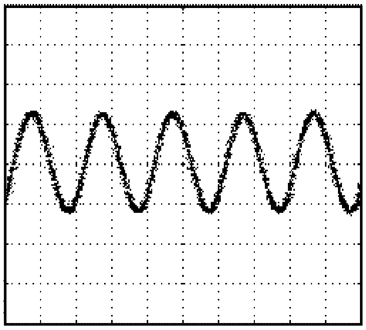
WAVEFORMS

MPEG/MICON/DSP



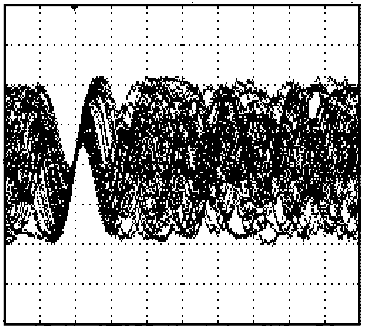
①

MEMORY



②

RF AMP/DSP



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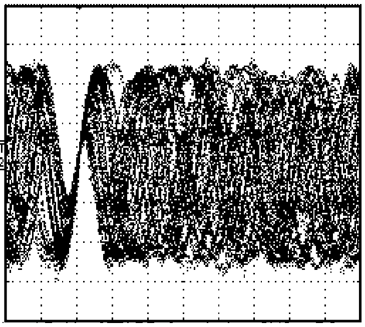
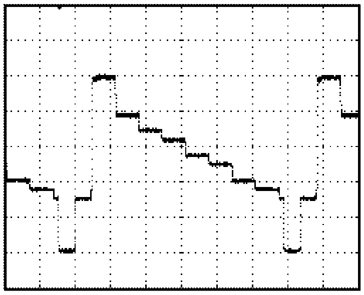


④

AUDIO/VIDEO



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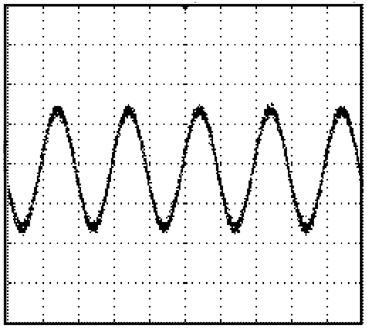

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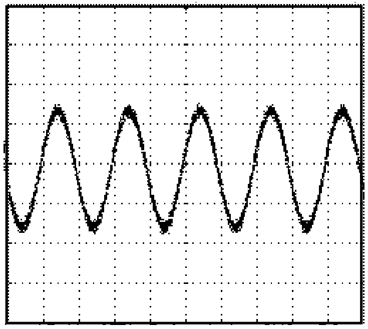

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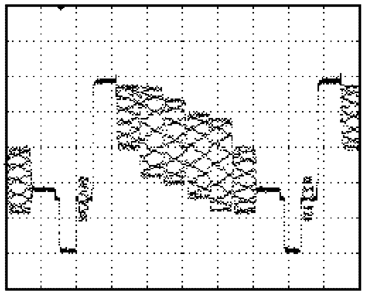

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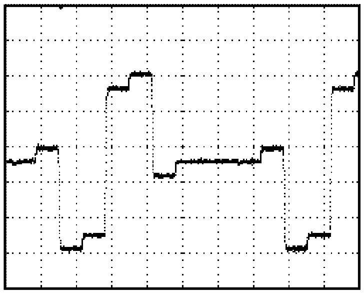

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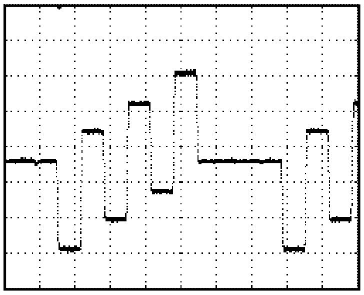
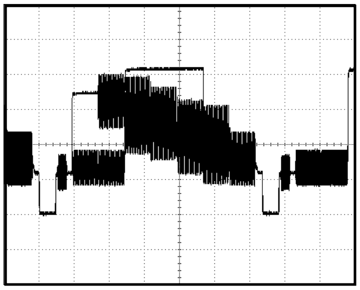


⑩

Y/C/AUDIO/CCD/HEAD AMP



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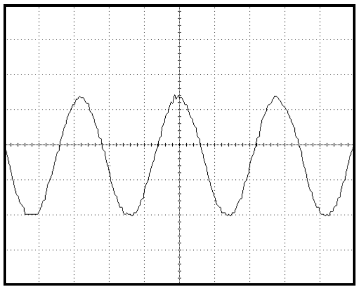

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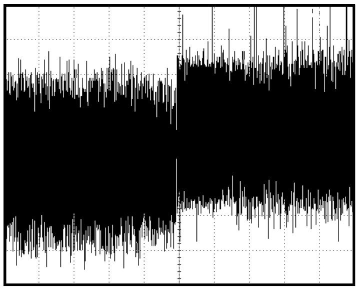

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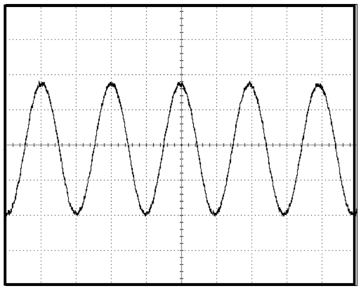

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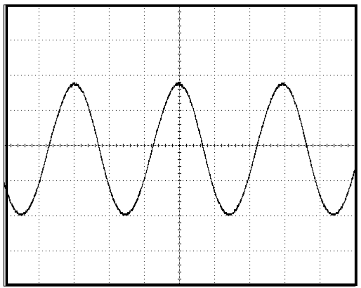


⑳

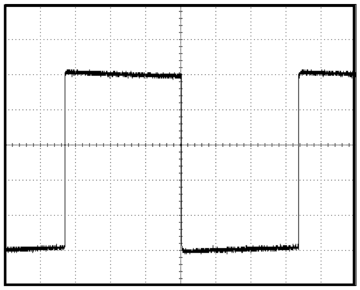
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

SYSCON

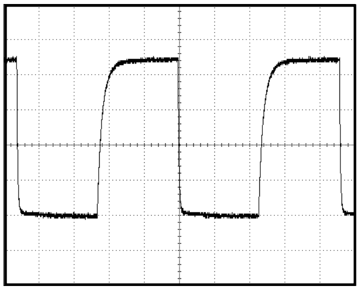
PB
5ms
1.0V

㉑



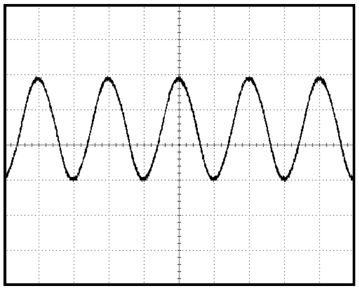
PB
200µs
1.0V

㉒



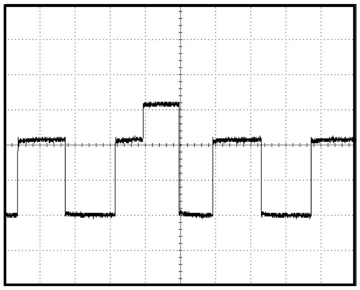
POWER ON
50ns
1.0V

㉓



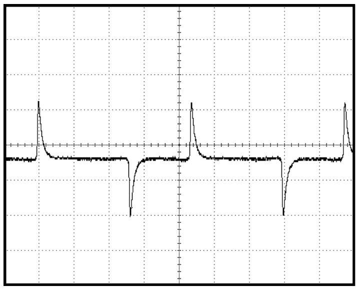
PB
500µs
1.0V

㉔



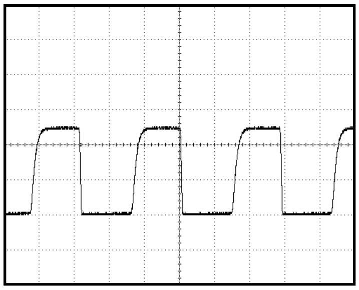
PB
5ms
500mV

㉕



PB
5ms
2.0V

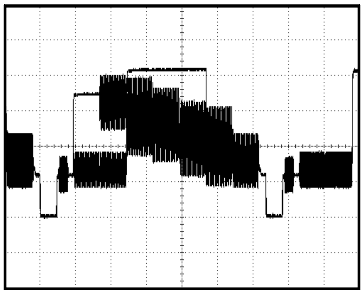
㉗



TUNER/JACK

PB
10µs
200mV

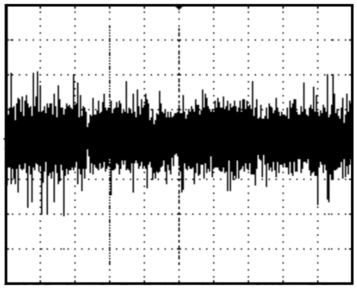
㉜



Hi-Fi/DEMODULATOR

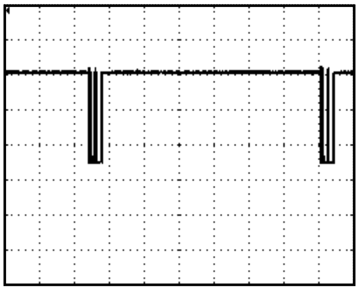
PB
10ms
1.0V

㊱



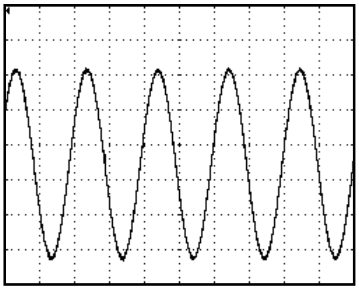
PB
1ms
2.0V

㊲



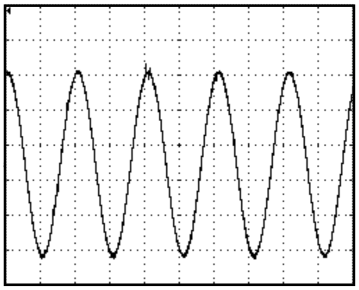
PB
500µs
200mV

㊳



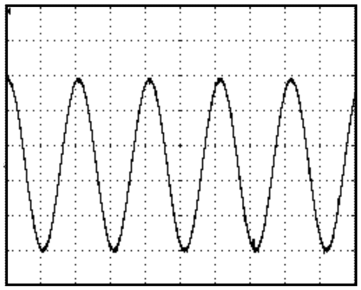
PB
500µs
200mV

㊴



PB
500µs
200mV

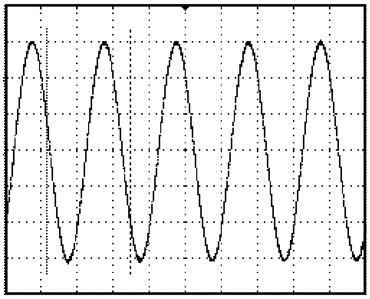
㊵



TUNER/JACK

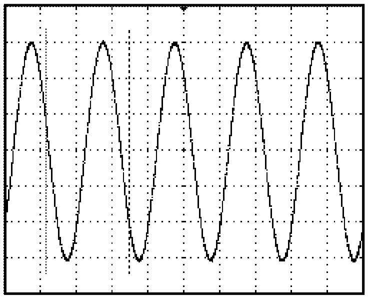
PB
500µs
100mV

㊶



PB
500µs
100mV

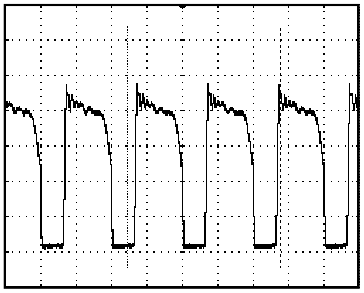
㊷



POWER

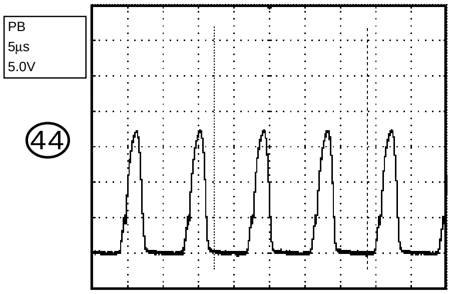
PB
5µs
500mV

㊸

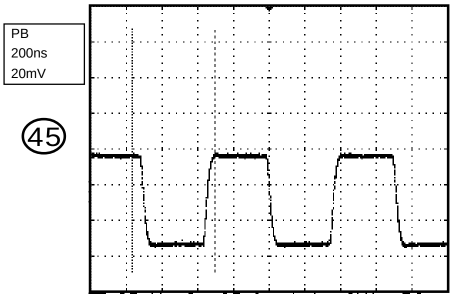


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS



TUNER/JACK



NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN